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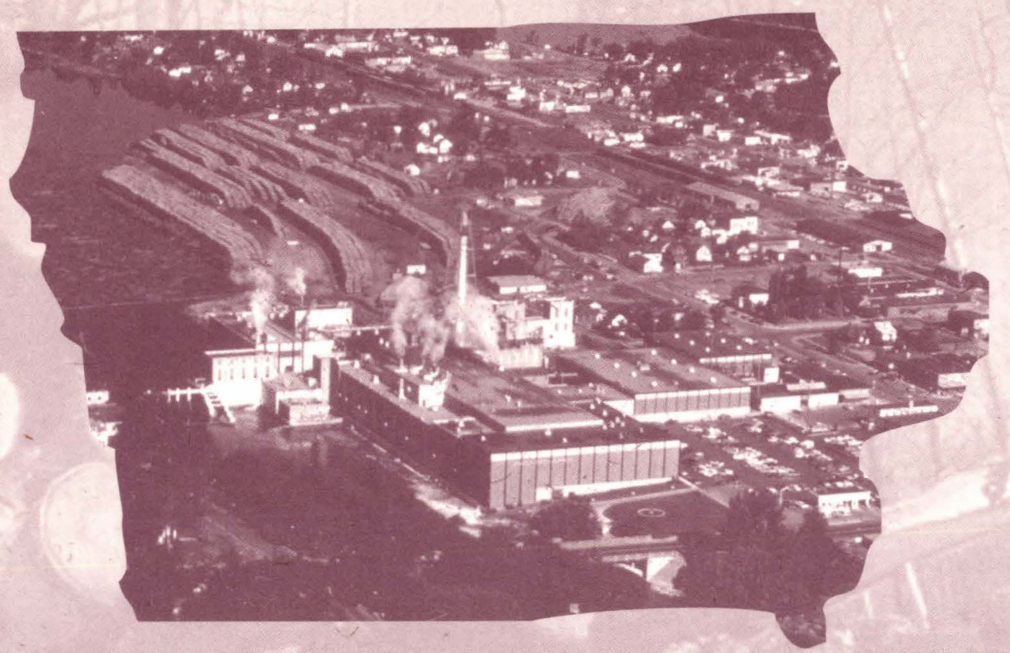
Iowa Timber Industry—An Assessment of Timber Product Output and Use, 2000

Ronald J. Piva and Dennis D. Michel



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FOREWORD

In this bulletin we discuss recent Iowa forest industry trends and report the results of a detailed study of the forest industry, industrial roundwood production, and associated primary mill wood and bark residue in Iowa in 2000. Such detailed information is necessary for intelligent planning and decisionmaking in wood procurement, forest resources management, and forest industry development. Likewise, researchers need current forest industry and industrial roundwood information for planning projects.

Special thanks are given to the primary wood-using firms for supplying information for this study and to the Iowa Department of Natural Resources, Bureau of Forestry, for canvassing the respondents. Their cooperation is greatly appreciated.

All board foot data in this report have been converted to International 1/4-inch scale by applying a multiplier of 1.08 to all saw log volumes reported in Scribner Decimal C scale by sawmills and a multiplier of 1.38 to all saw log volume reported in Doyle scale by sawmills.

When new surveys are completed, errors and omissions from previous surveys are corrected. As a result of our ongoing efforts to improve the survey's efficiency and reliability, changes may have been made to the previous survey's data. All comparisons and analysis in this report are based on the reprocessed data from earlier surveys, which may not match earlier published data.

The last published report from a detailed study of all industrial roundwood output in Iowa was for 1994. Most comparisons in this report are with the 1994 study results. Rows and columns may not sum due to rounding, but data in each table cell are accurately displayed.

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Iowa Timber Industry—An Assessment of Timber Product Output and Use, 2000

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HIGHLIGHTS

PRIMARY TIMBER INDUSTRY—INDUSTRIAL ROUNDWOOD

- In 2000, Iowa's primary wood-using industry was comprised of 57 sawmills, 1 pulp mill, and 1 veneer mill (table 1). Thirty-eight mills reported in 1994 were closed or inactive in 2000. The majority of the closed or inactive mills were small mills with an annual production of less than 1 million board feet per year.
- Fifty-four of the State's 57 sawmills, the 1 pulp mill, and the 1 veneer mill were located in the two eastern Forest Survey Units (fig. 1).
- In 2000, the primary wood-using mills in Iowa processed 19.9 million cubic feet of industrial roundwood, an increase of almost 7 percent from 1994.
- Almost 72 percent of the industrial roundwood processed by the State's primary wood-using mills were cut from Iowa's forest lands. Illinois supplied 58 percent of the raw material imported by

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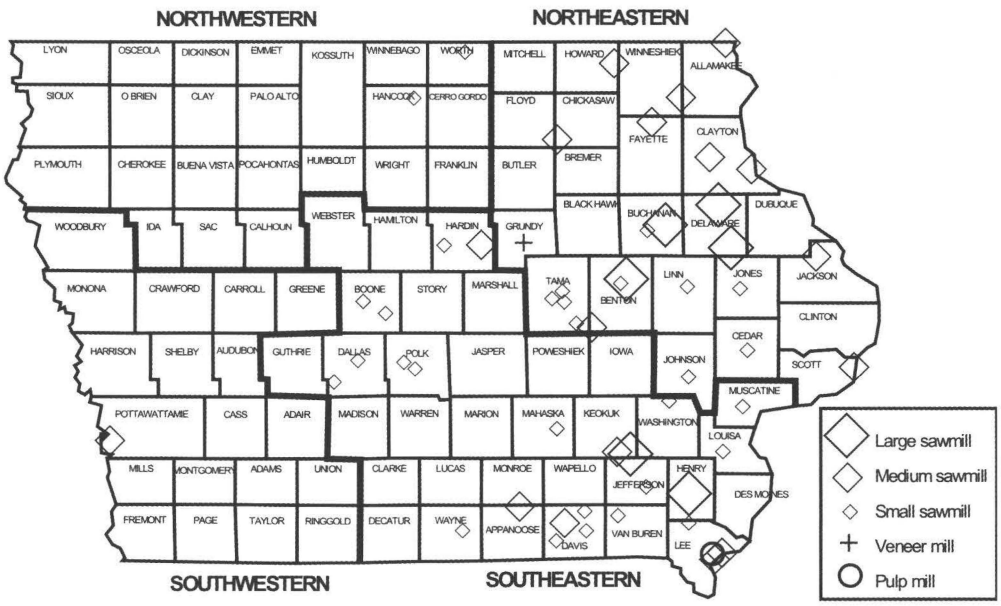

Figure 1.—*Forest Survey Units and location of wood-using mills in Iowa, 2000.*

Iowa's primary wood-using mills. Wisconsin and Missouri were the next leading suppliers of industrial roundwood to the State with 22 percent and 12 percent of the total imports, respectively (table 2).

- Iowa's primary wood-using mills in 2000 processed mainly hardwood species. Less than one-quarter of 1 percent of the industrial roundwood processed was softwood species.

- The production of industrial roundwood increased from 16.3 million cubic feet in 1994 to 17.5 million cubic feet in 2000, an increase of almost 7 percent (table 3).

- The production of saw logs accounted for 88 percent of the total industrial roundwood produced in 2000. The production of pulpwood products, the second largest consumer of Iowa's industrial roundwood production, accounted for 8 percent of the total production (fig. 2).

- In 2000, the Northeastern Unit produced 58 percent of the industrial roundwood produced in Iowa, followed by the Southeastern Unit with 37 percent. The Southwestern and Northwestern Units produced 3 percent and 2 percent, respectively, of the industrial roundwood for the State (table 4).

- Industrial roundwood production increased by over 40 percent for the Northwestern Unit between 1994 and 2000. Production increased by 18 percent in the Northeastern Unit during the same period, remained relatively unchanged in the Southeastern Unit, and decreased by over 50 percent in the Southwestern Unit (fig. 3).

- The top five species groups harvested from Iowa's forest land in 2000 were red oak, white oak, soft maple, black walnut, and cottonwood. These five species groups accounted for 82 percent of the total industrial roundwood volume harvested (table 5).

- Eighty-two percent of the industrial roundwood produced in Iowa went to primary wood-using mills in Iowa. Wisconsin and Missouri were two major importers of industrial roundwood produced in Iowa in 2000, consuming over two-thirds of the total volume exported (table 6).

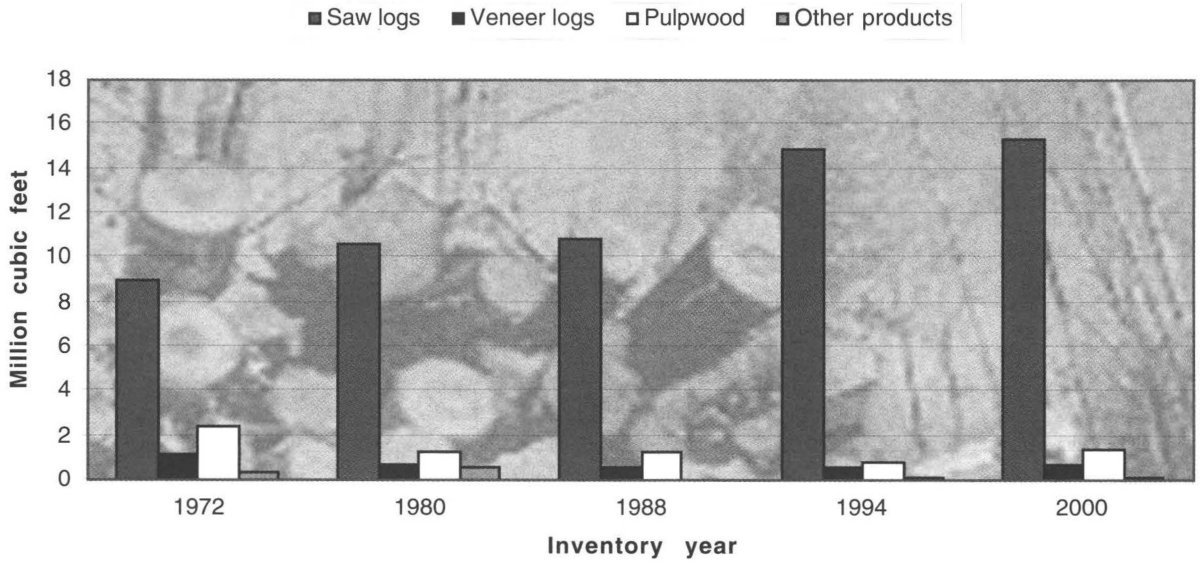

Figure 2.—*Industrial roundwood production by product, Iowa, 1972, 1980, 1988, 1994, and 2000.*

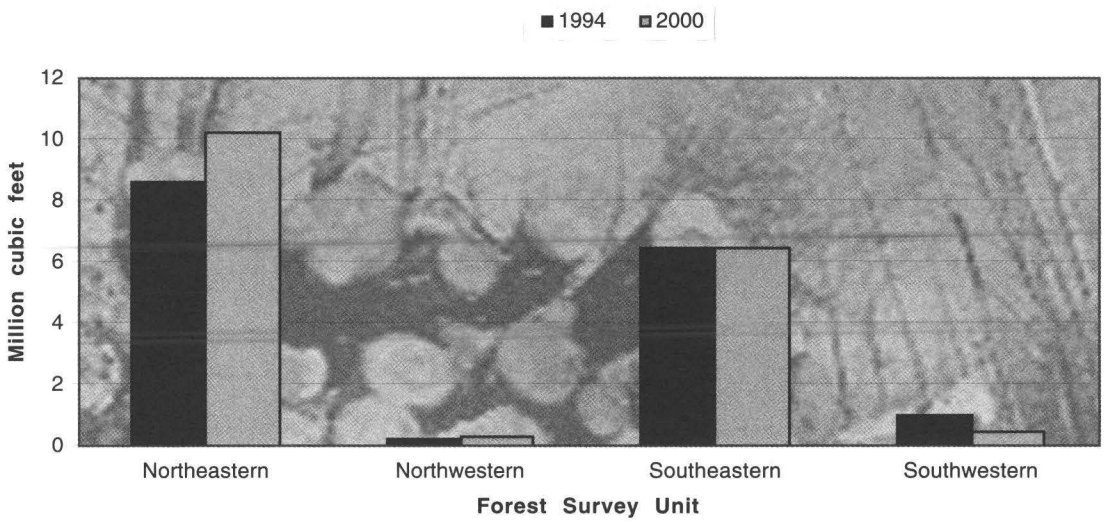

Figure 3.—*Industrial roundwood production by Forest Survey Unit, Iowa, 1994 and 2000.*

SAW LOGS

- Iowa's sawmills processed 96 million board feet of saw logs in 2000, down from 98 million board feet processed in 1994 (table 7).

- Soft maple, black walnut, and white oak saw log receipt volumes increased between 1994 and 2000, while cottonwood, red oak, and basswood saw log receipt volumes decreased.

- Iowa forests provided 89 million board feet of saw logs to sawmills in Illinois, Iowa, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin in 2000 (table 8).

- Red oaks accounted for 24 percent of the saw log production for Iowa in 2000. The white oak group was the second most harvested species group with 19 percent of the total saw log production, followed by soft maples with 17 percent (table 9).

- The Northeastern Unit was the leading producer of saw logs in 2000 with 49 million board feet, followed by the Southeastern Unit with 35 million board feet and the Southwestern and Northwestern Units each with 2 million board feet of saw logs.

- Overall, the production of saw logs in Iowa fell by 118 thousand board feet, or less than 1 percent, between 1994 and 2000. Major increases in saw log production from black walnut, red oaks, white oaks, and soft maples were offset by losses in saw log production from cottonwood and basswood (table 10 and fig. 4).

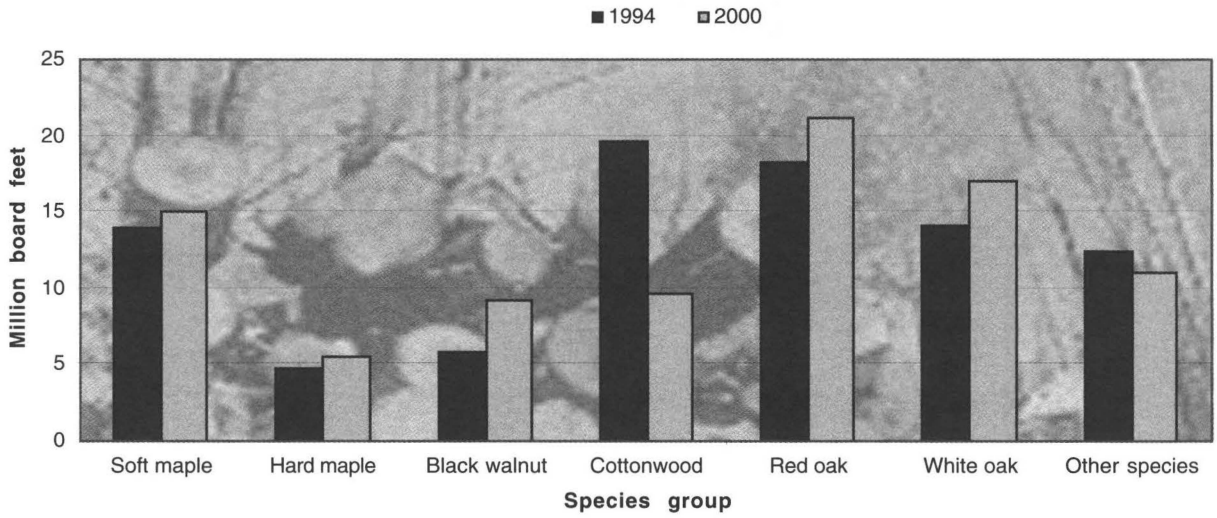

Figure 4.—*Saw log production by species group, Iowa, 1994 and 2000.*

OTHER PRODUCTS

- Iowa's veneer log production increased from 2.8 million board feet in 1994 to 3.6 million board feet in 2000, an increase of 27 percent. Black walnut and white oaks combined accounted for 70 percent of the veneer log production in 2000 (table 11).

- Pulpwood production in Iowa increased by 63 percent, from 10 thousand cords in 1994 to 17 thousand cords in 2000. Cottonwood accounted for 44 percent of the volume harvested for pulpwood in 2000 (table 12).

- Timber harvesting from Iowa's forest in 2000 provided cooperage logs and industrial fuelwood for mills in other States.

TIMBER REMOVALS

- In the production of industrial roundwood in 2000, 17 million cubic feet of Iowa's growing-stock inventory was removed from timberland. Eighty percent of the growing-stock removed was used for products (table 13).

- Sixty percent of the total wood material harvested from Iowa's forests in 2000 was used for primary wood products. The remainder was left on the ground as harvest residues (fig. 5).

- Cull trees accounted for 56 percent of the non-growing-stock sources of roundwood used for the production of primary wood products.

- Fifty-eight percent of the growing-stock removals came from the Northeastern Unit, 38 percent from the Southeastern Unit, and 2 percent came from each of the Northwestern and Southwestern Units (table 14).

- Industrial roundwood harvesting also removed 66 million board feet of wood from the sawtimber portion of Iowa's growing-stock inventory in 2000 (table 15), a 2-percent decrease from 1994.

HARVEST RESIDUES

- In 2000, harvesting of industrial roundwood products left 12 million cubic feet of harvest residues on the ground in Iowa (table 16)—up only 1 percent from 1994.

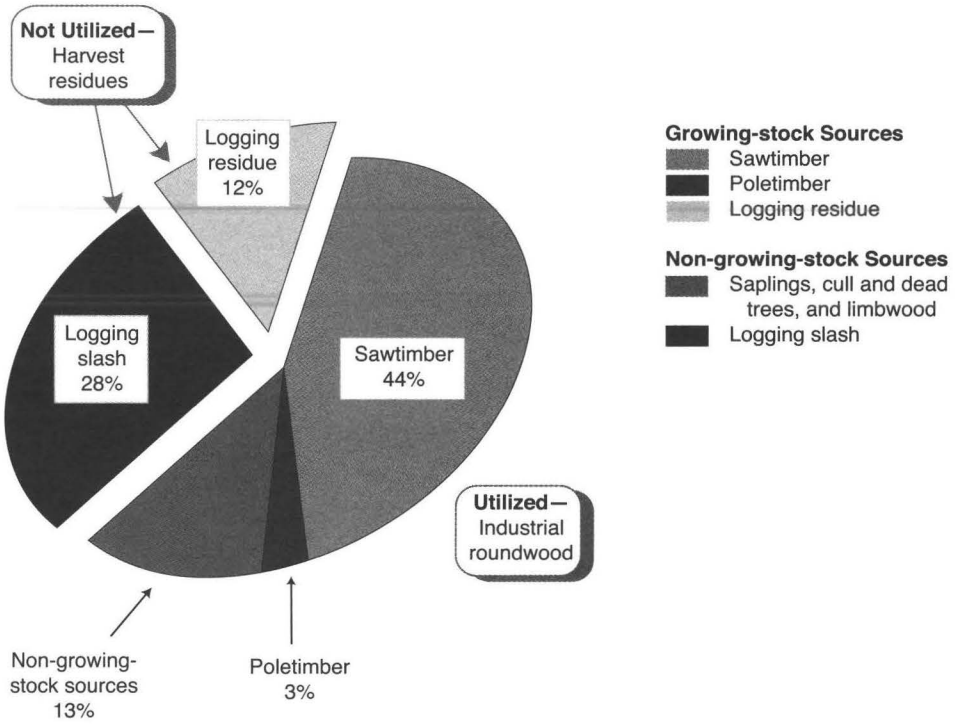

Figure 5.—*Distribution of timber removals for industrial roundwood by source of material, Iowa, 2000.*

- The oak and maple species groups accounted for 71 percent of the volume of harvest residues generated in Iowa in 2000.

- Seventy percent of the wood material left on the ground after the harvest of Iowa's industrial roundwood in 2000 came from non-growing-stock sources such as cull trees and trees from nonforest land.

PRIMARY MILL RESIDUES

- In converting industrial roundwood into products such as lumber, wood pulp, and veneer, Iowa's primary wood-using industry generated 257 thousand green tons of wood and bark residues (table 17).

- Fifty-one percent of the mill residues produced in 2000 were in the form of coarse wood residues, such as slabs and edgings, which are suitable for chipping. Fine residues made up another 27 percent of the mill residues produced, and bark residue accounted for the remaining 22 percent (fig. 6).

- Nearly all mill residues were used. Miscellaneous uses, such as livestock bedding, mulch, and small dimension lumber, consumed 45 percent of the total residues produced by Iowa's primary wood-using mills in 2000. Industrial and domestic fuel consumed another 29 percent of the mill residues produced (fig. 7).

- Almost three-fourths of the bark residue was used for miscellaneous uses such as mulch or livestock bedding. Less than 1 percent of the bark went unused in 2000.

- In 2000, 4 percent of the mill residues generated by Iowa's primary wood-using mills remained unused, while in 1994 only 2 percent of the mill residues went unused.

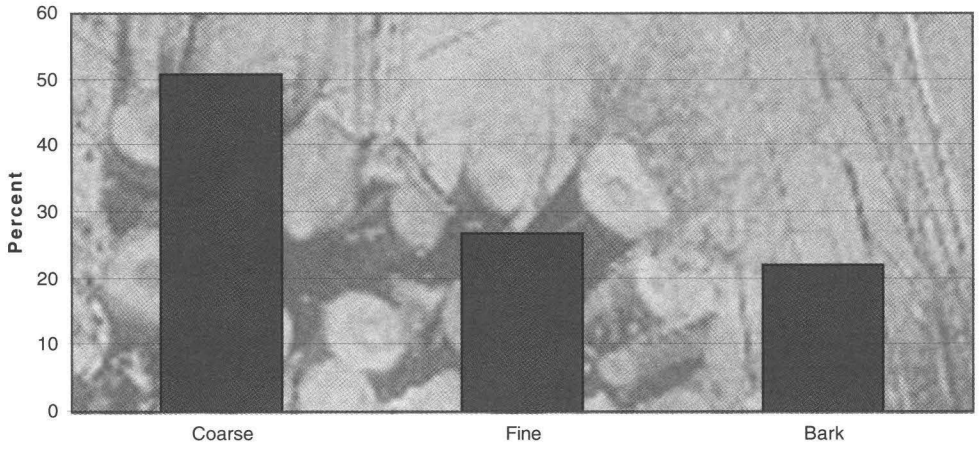

Figure 6.—*Distribution of residues generated by primary wood-using mills by type of residue, Iowa, 2000.*

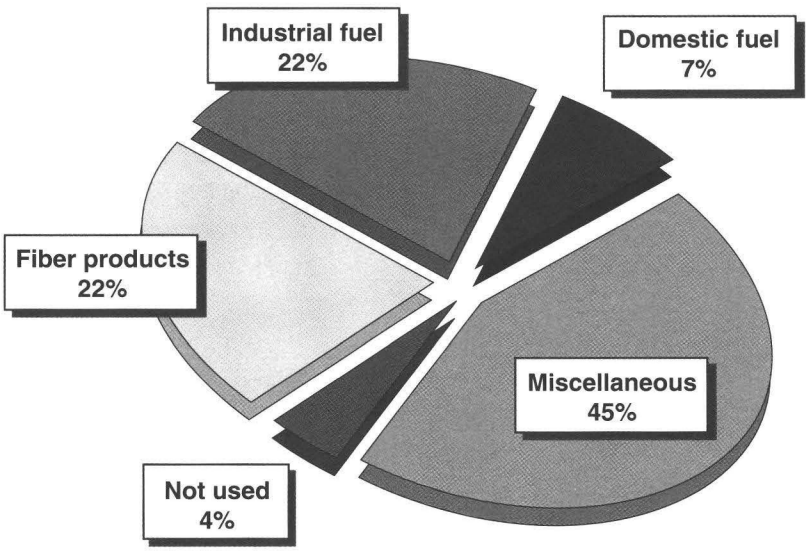

Figure 7.—*Distribution of residues generated by primary wood-using mills by method of disposal, Iowa, 2000.*

APPENDIX

STUDY METHODS

This study was a cooperative effort of the Iowa Department of Natural Resources (IADNR) and the North Central Research Station (NCRS). Using mail questionnaires supplied by NCRS and designed to determine the size and composition of the State's primary wood-using industry, its use of roundwood, and its generation and disposition of wood residues, the IADNR canvassed all primary wood-using mills within the State. IADNR made followups to non-responding mills using additional mailings, telephone calls, and personal contacts until a 100-percent response was achieved. Completed questionnaires were sent to NCRS for editing and processing.

As part of data editing and processing, all industrial roundwood volumes reported on the questionnaires were converted to standard units of measure using regional conversion factors. Timber removals by source of material and harvest residues generated during logging were estimated from standard product volumes using factors developed from logging utilization studies previously conducted by NCRS. Finalized data on Iowa's industrial roundwood receipts were loaded into a regional timber removals database where they were supplemented with data on out-of-State uses of Iowa roundwood to provide a complete assessment of Iowa's timber product output.

DEFINITION OF TERMS

Board foot

Unit of measure applied to roundwood. It relates to lumber that is 1 foot long, 1 foot wide, and 1 inch thick (or its equivalent).

Bolt

A short log no more than 8 feet long, to be sawn for lumber, peeled or sliced for veneer, shaved for excelsior, or converted into shingles, cooperage stock, dimension stock, blocks, blanks, etc.

Central stem

The portion of a tree between a 1-foot stump and the minimum 4.0-inch top diameter outside bark, or point where the central stem breaks into limbs.

Coarse mill residue

Wood residue suitable for chipping such as slabs, edgings, and veneer cores.

Commercial species

Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam, Osage-orange, and redbud.)

Cull removals

Net volume of rough and rotten trees plus the net volume in sections of the central stem of growing-stock trees that do not meet regional merchantability standards harvested for industrial roundwood products.

Dead removals

Net volume of dead trees harvested for industrial roundwood products.

Diameter at breast height (d.b.h.)

The outside bark diameter at 4.5 feet above the forest floor on the uphill side of the tree. For determining breast height, the forest floor includes the duff

layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

Fine mill residue

Wood residue not suitable for chipping such as sawdust and veneer clippings.

Forest land

Land at least 10 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams or other bodies of water, or clearings in forest areas shall be classed as forest if less than 120 feet wide.

Growing-stock removals

The growing-stock volume removed from the timberland inventory by harvesting industrial roundwood products. (Note: Includes sawtimber removals, poletimber removals, and logging residues.)

Growing-stock tree

A live timberland tree of commercial species that meets specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

Growing-stock volume

Net volume of growing-stock trees 5.0 inches d.b.h. and over, from 1 foot above the ground to a minimum 4.0-inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs.

Hardwoods

Dicotyledonous trees, usually broad-leaved and deciduous.

Harvest residues

The total net volume of unused portions of trees cut or killed by logging. (Note: Includes both logging residues and logging slash.)

Industrial fuelwood

A roundwood product, with or without bark, used to generate energy at manufacturing facilities and schools, correctional institutions, or electric generating plants.

Industrial roundwood exports

The quantity of industrial roundwood harvested in a geographical area and transported to other geographical areas.

Industrial roundwood imports

The quantity of industrial roundwood received from other geographical areas.

Industrial roundwood products

Saw logs, pulpwood, veneer logs, poles, commercial posts, pilings, cooperage logs, particleboard bolts, shaving bolts, lath bolts, charcoal bolts, and chips from roundwood used for pulp or board products.

Industrial roundwood production

The quantity of industrial roundwood harvested in a geographic area plus all industrial roundwood exported to other geographical areas.

Industrial roundwood receipts

The quantity of industrial roundwood received by commercial mills in a geographic area plus all industrial roundwood imported from other geographical areas.

Industrial roundwood retained

The quantity of industrial roundwood harvested from and processed by commercial mills within the same geographical area.

International 1/4-inch rule

A log rule or formula for estimating the board foot volume of logs, allowing 1/2-inch of taper for each 4-foot length. The rule appears in a number of forms that allow for kerf. In this form, 1/4-inch of kerf is assumed. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

Limbwood removals

Net volume of all portions of a tree other than the central stem (including forks, large limbs, tops, and stumps) harvested for industrial roundwood products.

Logging residue

The net volume of unused portions of the merchantable central stem of growing-stock trees cut or killed by logging.

Logging slash
The net volume of unused portions of the unmerchantable (non-growing stock) sections of trees cut or killed by logging.

Merchantable sections
Refers to sections of the central stem of growing-stock trees that meet either pulpwood or saw log specifications.

Net volume
Gross volume less deductions for rot, sweep, or other defects affecting use for roundwood products.

Noncommercial species
Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial roundwood products. Classified in volume tables as rough trees.

Nonforest land
Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, active Christmas tree plantations, orchards, nurseries, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 39.9-acre areas of water classified by the Bureau of the Census as land.) If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre to qualify as nonforest land.

Nonforest land removals
Net volume of trees on nonforest lands harvested for industrial roundwood products.

Poletimber
A growing-stock tree at least 5.0 inches d.b.h. but smaller than sawtimber size (9.0 inches d.b.h. for softwoods, 11.0 inches d.b.h. for hardwoods).

Poletimber removals
Net volume in the merchantable central stem of poletimber trees harvested for industrial roundwood products.

Primary wood-using mills
Mills receiving roundwood or chips from roundwood for processing into products such as lumber, veneer, pulp, etc.

Primary wood-using mill residue
Wood materials (coarse and fine) and bark generated at manufacturing plants that process industrial roundwood into principal products. These residues include wood products (byproducts) obtained incidental to production of principal products and wood materials not utilized for some product.

Rotten tree
A tree that does not meet regional merchantability standards because of excessive unsound cull.

Rough tree
A tree that does not meet regional merchantability standards because of excessive sound cull. Includes noncommercial tree species.

Roundwood
Logs, bolts, or other round sections cut from trees (including chips from roundwood).

Sapling
A live tree between 1.0 and 5.0 inches d.b.h.

Sapling removals
Net volume in saplings harvested for industrial roundwood products.

Saw log portion
That portion of the central stem of sawtimber trees between the stump and the saw log top.

Saw log top
The point on the central stem of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7.0 inches diameter outside bark for softwoods and 9.0 inches diameter outside bark for hardwoods.

Sawtimber removals
As used in table 13, sawtimber removals refers to the net volume in the merchantable central stem of sawtimber trees harvested for industrial roundwood products. (Note: Includes the saw log and upper stem portions of sawtimber trees.) When referring to the sawtimber volume removed from the timberland inventory as in table 15, sawtimber removals refers to the net volume in the saw log portion of sawtimber trees harvested for roundwood products or left on the ground as harvest residue, and is usually expressed in thousands of board feet (International 1/4-inch rule).

Sawtimber tree

A growing-stock tree containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. and hardwoods must be at least 11.0 inches d.b.h.

Sawtimber volume

Net volume in the saw log portion of sawtimber trees.

Softwoods

Coniferous trees, usually evergreen, having needles or scale-like leaves.

Timber product output

The volume of roundwood products produced from an area's forests.

Timberland

Forest land that is producing, or is capable of producing, in excess of 20 cubic feet per acre per year of industrial roundwood products under natural conditions, is not withdrawn from timber utilization by statute or administrative regulation, and is not associated with urban or rural development.

Tree

A woody plant usually having one or more perennial stems, a more or less definitely formed crown of foliage, and a height of at least 12 feet at maturity.

Upper stem portion

That portion of the central stem of sawtimber trees between the saw log top and the minimum top diameter of 4.0 inches outside bark, or to the point where the central stem breaks into limbs.

COMMON AND SCIENTIFIC NAMES OF TREE SPECIES MENTIONED IN THIS REPORT

SOFTWOODS

Eastern redcedar ..... *Juniperus virginiana*
Spruce
  White spruce ..... *Picea glauca*
  Black spruce ..... *Picea mariana*
Jack pine ..... *Pinus banksiana*
Red pine ..... *Pinus resinosa*
Eastern white pine ..... *Pinus strobus*

HARDWOODS

Hard maple
  Black maple ..... *Acer nigrum*
  Sugar maple ..... *Acer saccharum*
Soft maple
  Boxelder ..... *Acer negundo*
  Red maple ..... *Acer rubrum*
  Silver maple ..... *Acer saccharinum*
Birch
  River birch ..... *Betula nigra*
  Paper birch ..... *Betula papyrifera*
Hickory
  Bitternut hickory ..... *Carya cordiformis*
  Shellbark hickory ..... *Carya laciniosa*
  Shagbark hickory ..... *Carya ovata*
  Mockernut hickory ..... *Carya tomentosa*
Pecan ..... *Carya illinoensis*
Northern catalpa ..... *Catalpa speciosa*
Hackberry ..... *Celtis occidentalis*
American beech ..... *Fagus grandifolia*
Ash
  Black ash ..... *Fraxinus nigra*

White ash	*Fraxinus americana*
Green ash	*Fraxinus pennsylvanica*
Honeylocust	*Gleditsia triacanthos*
Butternut	*Juglans cinerea*
Black walnut	*Juglans nigra*
Yellow-poplar	*Liriodendron tulipifera*
Black tupelo	*Nyssa sylvatica*
Sycamore	*Platanus occidentalis*
Eastern cottonwood	*Populus deltoides*
Aspen	
Bigtooth aspen	*Populus grandidentata*
Quaking aspen	*Populus tremuloides*
Black cherry	*Prunus serotina*
Red oak group	
Northern pin oak	*Quercus ellipsoidalis*
Shingle oak	*Quercus imbricaria*
Pin oak	*Quercus palustris*
Northern red oak	*Quercus rubra*
Black oak	*Quercus velutina*
White oak group	
White oak	*Quercus alba*
Swamp white oak	*Quercus bicolor*
Overcup oak	*Quercus lyrata*
Bur oak	*Quercus macrocarpa*
Chinkapin oak	*Quercus muehlenbergii*
Post oak	*Quercus stellata*
Black willow	*Salix nigra*
American basswood	*Tilia americana*
Elm	
American elm	*Ulmus americana*
Siberian elm	*Ulmus pumila*
Slippery elm	*Ulmus rubra*

TABLE TITLES

Table 1.—*Number of active primary wood-using mills by mill type, Iowa, 1972, 1980, 1988, 1994, and 2000*

Table 2.—*Industrial roundwood receipts by species group and State of origin, Iowa, 2000*

Table 3.—*Industrial roundwood production by product and softwoods and hardwoods, Iowa, 1972, 1980, 1988, 1994, and 2000*

Table 4.—*Industrial roundwood production by Forest Survey Unit, species group, and product, Iowa, 2000*

Table 5.—*Industrial roundwood production by Forest Survey Unit, county, and species group, Iowa, 2000*

Table 6.—*Industrial roundwood production by species group and destination, Iowa, 2000*

Table 7.—*Saw log receipts by species group, Iowa, 1994 and 2000*

Table 8.—*Saw log production by species group and destination, Iowa, 2000*

Table 9.—*Saw log production by Forest Survey Unit, county, and species group, Iowa, 2000*

Table 10.—*Saw log production by species group, Iowa, 1972, 1980, 1988, 1994, and 2000*

Table 11.—*Veneer log production by species group, Iowa, 1972, 1980, 1988, 1994, and 2000*

Table 12.—*Pulpwood production by species group, Iowa, 1994 and 2000*

Table 13.—*Timber removals for industrial roundwood by species group and source of material, Iowa, 2000*

Table 14.—*Growing-stock removals from timberland for industrial roundwood by Forest Survey Unit, county, and species group, Iowa, 2000*

Table 15.—*Sawtimber removals from timberland for industrial roundwood by Forest Survey Unit, county, and species group, Iowa, 2000*

Table 16.—*Residue generated by industrial roundwood harvesting by Forest Survey Unit, county, and species group, Iowa, 2000*

Table 17.—*Residues produced at primary wood-using mills by Forest Survey Unit, type of use, and residue type, Iowa, 2000*

TABLES

Table 1.--Number of active primary wood-using mills by mill type, Iowa, 1972, 1980, 1988, 1994, and 2000

Kind of mill and mill size	1972	1980	1988	1994	2000
Sawmills					
Large[1]	–	2	3	5	6
Medium[2]	48	20	27	22	17
Small[3]	12	19	35	42	34
Total	60	41	65	69	57
Cooperage mills	1	1	–	–	–
Veneer mills	2	1	1	1	1
Pulp mills	2	2	1	1	1
All mills	65	45	67	71	59

[1] *Annual lumber production in excess of 5 million board feet.*

[2] *Annual lumber production from 1 million to 5 million board feet.*

[3] *Annual lumber production less than 1 million board feet.*

Table 2.--Industrial roundwood receipts by species group and State of origin, Iowa, 2000

(In thousand cubic feet)

Species group	Total	State of origin							
		Illinois	Indiana	Iowa	Michigan	Minnesota	Missouri	Wisconsin	Other U.S.
Softwoods									
White pine	29	–	–	29	*	–	–	–	–
Total	29	–	–	29	*	–	–	–	–
Hardwoods									
Soft maple	3,877	1,212	–	2,397	11	2	205	50	–
Hard maple	890	72	–	701	28	2	6	81	–
River birch	20	–	–	20	–	–	–	–	–
Hickory	529	213	–	244	–	3	19	50	–
Pecan	5	5	–	–	–	–	–	–	–
Hackberry	100	16	–	80	–	–	–	5	–
Beech	*	–	–	–	*	–	–	–	–
Ash	544	110	–	387	–	*	3	44	–
Black walnut	2,019	32	–	1,912	–	–	8	67	–
Yellow-poplar	4	–	4	–	–	–	–	–	–
Tupelo	8	–	–	–	–	–	8	–	–
Sycamore	129	36	–	82	–	–	11	–	–
Cottonwood	3,022	867	–	1,729	–	222	162	41	–
Aspen	39	–	–	18	–	6	–	15	–
Black cherry	326	44	–	207	–	–	–	21	54
Red oak group	3,904	257	–	2,995	–	98	92	463	–
White oak group	3,338	180	–	2,756	–	27	114	261	–
Willow	24	–	–	8	–	8	–	9	–
Basswood	596	26	–	431	–	37	*	102	–
Elm	484	186	–	241	–	1	39	16	–
Total	19,859	3,255	4	14,209	39	407	667	1,224	54
All species	19,888	3,255	4	14,238	39	407	667	1,224	54

* *Less than 500 cubic feet.*

Table 3.--Industrial roundwood production by product and softwoods and hardwoods, Iowa, 1972, 1980, 1988, 1994, and 2000

(In thousand cubic feet)

Product	Softwoods					Hardwoods					All species				
	1972	1980 [1]	1988 [1]	1994	2000	1972	1980 [1]	1988 [1]	1994	2000	1972	1980 [1]	1988 [1]	1994	2000
Saw logs	17	*	3	21	29	8,987	10,621	10,816	14,886	15,355	9,004	10,621	10,819	14,907	15,384
Veneer logs	–	–	–	–	–	1,157	712	522	572	672	1,157	712	522	572	672
Pulpwood	–	–	–	–	37	2,441	1,320	1,225	814	1,290	2,441	1,320	1,225	814	1,327
Cooperage logs	–	–	–	–	–	102	558	–	69	71	102	558	–	69	71
Other products[2]	–	–	–	–	–	232	–	–	–	3	232	–	–	–	3
Total	17	*	3	21	66	12,919	13,211	12,563	16,340	17,391	12,936	13,211	12,566	16,362	17,457

* *Less than 500 cubic feet.*

[1] *Data for 1980 and 1988 are estimates based on trend data and related studies.*

[2] *Includes shavings, chips, industrial fuelwood, etc.*

Table 4.--Industrial roundwood production by Forest Survey Unit, species group, and product, Iowa, 2000

ALL UNITS

Species group	Saw logs		Veneer logs		Pulpwood		Cooperage		Industrial fuelwood		All products
	MBF [1]	MCF [2]	MBF [1]	MCF [2]	Cords [3]	MCF [2]	MBF [1]	MCF [2]	Cords [3]	MCF [2]	MCF [2]
Softwoods											
Spruce	*	*	–	–	–	–	–	–	–	–	*
Jack pine	–	–	–	–	306	24	–	–	–	–	24
Red pine	*	*	–	–	161	13	–	–	–	–	13
White pine	167	29	–	–	–	–	–	–	–	–	29
Total	167	29	–	–	468	37	–	–	–	–	66
Hardwoods											
Soft maple	15,069	2,482	3	1	2,781	220	–	–	–	–	2,702
Hard maple	5,476	902	469	107	233	18	–	–	–	–	1,028
Paper birch	9	1	–	–	–	–	–	–	–	–	1
River birch	38	6	1	*	171	14	–	–	–	–	20
Hickory	1,283	211	11	2	591	47	–	–	–	–	261
Hackberry	495	81	–	–	–	–	–	–	–	–	81
Ash	2,197	362	42	10	860	68	–	–	20	1	441
Butternut	2	*	–	–	–	–	–	–	–	–	*
Black walnut	9,259	2,027	1,742	245	–	–	–	–	–	–	2,272
Sycamore	568	94	–	–	98	8	–	–	–	–	101
Cottonwood	9,673	1,368	–	–	7,351	581	–	–	–	–	1,948
Aspen	330	54	–	–	–	–	–	–	–	–	54
Black cherry	1,403	231	237	54	14	1	–	–	–	–	286
Red oak group	21,155	3,766	303	69	2,176	172	–	–	–	–	4,007
White oak group	16,963	3,019	776	177	1,113	88	433	71	23	2	3,358
Willow	47	8	–	–	–	–	–	–	–	–	8
Basswood	3,303	544	–	–	76	6	–	–	–	–	550
Elm	1,201	198	23	5	870	69	–	–	–	–	272
Northern catalpa	1	*	–	–	–	–	–	–	–	–	*
Total	88,471	15,355	3,607	672	16,335	1,290	433	71	43	3	17,391
All species	88,639	15,384	3,607	672	16,802	1,327	433	71	43	3	17,457

(Table 4 continued on next page)

(Table 4 continued)

NORTHEASTERN

Species group	Saw logs		Veneer logs		Pulpwood		Cooperage		Industrial fuelwood		All products
	MBF [1]	MCF [2]	MBF [1]	MCF [2]	Cords [3]	MCF [2]	MBF [1]	MCF [2]	M pieces	MCF [2]	MCF [2]
Softwoods											
Jack pine	–	–	–	–	306	24	–	–	–	–	24
Red pine	–	–	–	–	161	13	–	–	–	–	13
White pine	160	28	–	–	–	–	–	–	–	–	28
Total	160	28	–	–	468	37	–	–	–	–	65
Hardwoods											
Soft maple	5,377	886	1	*	2,445	193	–	–	–	–	1,079
Hard maple	5,152	849	407	93	200	16	–	–	–	–	957
Paper birch	9	1	–	–	–	–	–	–	–	–	1
River birch	12	2	1	*	67	5	–	–	–	–	7
Hickory	619	102	11	2	528	42	–	–	–	–	146
Hackberry	164	27	–	–	–	–	–	–	–	–	27
Ash	1,245	205	37	8	553	44	–	–	–	–	257
Butternut	2	*	–	–	–	–	–	–	–	–	*
Black walnut	5,987	1,311	1,165	164	–	–	–	–	–	–	1,475
Sycamore	15	3	–	–	98	8	–	–	–	–	10
Cottonwood	1,562	221	–	–	6,193	489	–	–	–	–	710
Aspen	330	54	–	–	–	–	–	–	–	–	54
Black cherry	1,267	209	203	46	–	–	–	–	–	–	255
Red oak group	14,815	2,637	298	68	956	76	–	–	–	–	2,781
White oak group	8,528	1,518	604	138	526	42	–	–	–	–	1,698
Willow	47	8	–	–	–	–	–	–	–	–	8
Basswood	2,736	451	–	–	–	–	–	–	–	–	451
Elm	947	156	22	5	758	60	–	–	–	–	221
Total	48,812	8,638	2,746	526	12,323	974	–	–	–	–	10,137
All species	48,972	8,666	2,746	526	12,791	1,010	–	–	–	–	10,202

NORTHWESTERN

Softwoods											
Spruce	*	*	–	–	–	–	–	–	–	–	*
Red pine	*	*	–	–	–	–	–	–	–	–	*
Total	*	*	–	–	–	–	–	–	–	–	*
Hardwoods											
Soft maple	184	30	–	–	–	–	–	–	–	–	30
Hard maple	12	2	–	–	–	–	–	–	–	–	2
Hickory	1	*	–	–	–	–	–	–	–	–	*
Ash	23	4	–	–	–	–	–	–	–	–	4
Black walnut	28	6	–	–	–	–	–	–	–	–	6
Cottonwood	699	99	–	–	–	–	–	–	–	–	99
Black cherry	*	*	–	–	–	–	–	–	–	–	*
Red oak group	88	16	–	–	–	–	–	–	–	–	16
White oak group	919	164	–	–	–	–	–	–	–	–	164
Basswood	137	23	–	–	–	–	–	–	–	–	23
Elm	2	*	–	–	–	–	–	–	–	–	*
Northern catalpa	1	*	–	–	–	–	–	–	–	–	*
Total	2,094	344	–	–	–	–	–	–	–	–	344
All species	2,095	344	–	–	–	–	–	–	–	–	344

(Table 4 continued on next page)

(Table 4 continued)

SOUTHEASTERN

Species group	Saw logs		Veneer logs		Pulpwood		Cooperage		Industrial fuelwood		All products
	MBF [1]	MCF [2]	MBF [1]	MCF [2]	Cords [3]	MCF [2]	MBF [1]	MCF [2]	M pieces	MCF [2]	MCF [2]
Softwoods											
White pine	7	1	–	–	–	–	–	–	–	–	1
Total	7	1	–	–	–	–	–	–	–	–	1
Hardwoods											
Soft maple	8,894	1,465	3	1	336	27	–	–	–	–	1,492
Hard maple	312	51	62	14	32	3	–	–	–	–	68
River birch	26	4	1	*	104	8	–	–	–	–	13
Hickory	663	109	–	–	63	5	–	–	–	–	114
Hackberry	331	54	–	–	–	–	–	–	–	–	54
Ash	922	152	6	1	307	24	–	–	–	–	177
Black walnut	1,862	408	577	81	–	–	–	–	–	–	489
Sycamore	553	91	–	–	–	–	–	–	–	–	91
Cottonwood	7,067	999	–	–	1,158	91	–	–	–	–	1,091
Black cherry	137	22	34	8	14	1	–	–	–	–	31
Red oak group	6,252	1,113	5	1	1,221	96	–	–	–	–	1,211
White oak group	7,516	1,338	171	39	587	46	433	71	–	–	1,495
Basswood	431	71	–	–	76	6	–	–	–	–	77
Elm	252	41	1	*	113	9	–	–	–	–	51
Total	35,217	5,920	860	146	4,012	317	433	71	–	–	6,454
All species	35,224	5,921	860	146	4,012	317	433	71	–	–	6,455

SOUTHWESTERN

Hardwoods											
Soft maple	614	101	–	–	–	–	–	–	–	–	101
Ash	8	1	–	–	–	–	–	–	20	1	3
Black walnut	1,382	302	–	–	–	–	–	–	–	–	302
Cottonwood	345	49	–	–	–	–	–	–	–	–	49
White oak group	*	*	–	–	–	–	–	–	23	2	2
Total	2,349	454	–	–	–	–	–	–	43	3	457
All species	2,349	454	–	–	–	–	–	–	43	3	457

* *Less than 1/2 unit of measure.*

[1] *Thousand board feet, International 1/4-inch rule.*

[2] *Thousand cubic feet.*

[3] *Standard cords are 128 cubic feet, consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.*

Table 5 --Industrial roundwood production by Forest Survey Unit, county, and species group, Iowa, 2000

(In thousand cubic feet)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Northeastern													
Allamakee	1,643	–	–	–	*	*	22	147	1	*	21	3	26
Benton	245	–	–	–	–	–	205	–	–	–	–	*	3
Black Hawk	32	–	–	–	–	–	18	1	–	–	–	–	5
Bremer	59	–	–	–	*	*	12	*	–	–	1	*	5
Buchanan	15	–	–	–	–	–	8	–	–	–	*	–	1
Butler	47	–	–	–	*	*	*	*	–	–	*	*	5
Cedar	166	–	–	–	–	–	27	3	–	*	3	2	6
Chickasaw	62	–	–	–	*	*	*	1	–	–	*	1	6
Clayton	1,481	–	–	–	*	*	4	283	–	*	19	2	43
Clinton	100	–	–	–	–	–	52	–	–	*	*	–	1
Delaware	842	–	24	13	–	37	9	109	–	*	7	*	25
Dubuque	2,320	–	–	–	–	–	191	169	–	6	65	6	61
Fayette	598	–	–	–	24	24	2	71	–	–	8	3	16
Floyd	111	–	–	–	*	*	5	2	–	–	*	2	8
Howard	48	–	–	–	*	*	*	1	–	–	*	*	5
Jackson	541	–	–	–	–	–	61	25	–	*	4	–	5
Johnson	76	–	–	–	–	–	–	–	–	–	1	–	3
Jones	706	–	–	–	–	–	96	81	–	–	7	*	13
Linn	273	–	–	–	–	–	4	49	–	–	7	*	6
Mitchell	113	–	–	–	*	*	1	1	–	–	*	1	6
Scott	21	–	–	–	–	–	–	*	–	–	–	–	1
Tama	426	–	–	–	–	–	360	–	–	–	1	1	4
Winneshiek	275	–	–	–	*	*	1	15	–	*	2	1	8
Total	10,202	–	24	13	28	65	1,079	957	1	7	146	27	257
Northwestern													
Clay	40	–	–	–	–	–	7	–	–	–	*	–	1
Hancock	9	–	–	–	–	–	–	–	–	–	–	–	–
Kossuth	73	–	–	–	–	–	20	–	–	–	–	–	2
Lyon	5	*	–	*	–	*	–	–	–	–	–	–	*
Plymouth	49	–	–	–	–	–	–	–	–	–	–	–	–
Winnebago	158	–	–	–	–	–	1	2	–	–	–	–	–
Worth	10	–	–	–	–	–	2	–	–	–	–	–	–
Total	344	*	–	*	–	*	30	2	–	–	*	–	4

(Table 5 continued on next page)

(Table 5 continued)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Southeastern													
Appanoose	273	–	–	–	–	–	96	–	–	–	1	–	2
Boone	111	–	–	–	–	–	2	5	–	–	*	–	1
Clarke	16	–	–	–	–	–	14	–	–	–	–	–	1
Dallas	77	–	–	–	–	–	1	–	–	–	–	–	*
Davis	299	–	–	–	–	–	128	–	–	–	1	–	1
Decatur	31	–	–	–	–	–	9	–	–	*	–	–	1
Des Moines	376	–	–	–	–	–	71	2	–	3	11	3	18
Hardin	500	–	–	–	–	–	206	9	–	–	*	4	71
Henry	272	–	–	–	–	–	24	2	–	1	8	*	9
Iowa	178	–	–	–	*	*	55	–	–	*	3	3	3
Jasper	129	–	–	–	–	–	92	–	–	–	–	–	–
Jefferson	394	–	–	–	–	–	48	–	–	1	11	6	–
Keokuk	445	–	–	–	*	*	86	–	–	1	11	9	4
Lee	581	–	–	–	–	–	125	3	–	2	11	3	20
Louisa	171	–	–	–	–	–	14	14	–	*	5	*	5
Lucas	63	–	–	–	–	–	20	–	–	–	–	–	2
Madison	13	–	–	–	–	–	*	1	–	–	–	–	–
Mahaska	422	–	–	–	–	–	93	–	–	1	11	9	5
Marion	19	–	–	–	–	–	17	–	–	–	–	–	*
Marshall	3	–	–	–	–	–	–	1	–	–	–	–	*
Monroe	178	–	–	–	–	–	14	–	–	–	–	–	2
Muscatine	79	–	–	–	–	–	11	2	–	*	5	*	3
Polk	*	–	–	–	–	–	–	–	–	–	–	–	–
Poweshiek	51	–	–	–	*	*	4	*	–	*	*	*	1
Van Buren	334	–	–	–	–	–	95	1	–	1	7	*	8
Wapello	479	–	–	–	–	–	62	–	–	1	8	6	3
Warren	172	–	–	–	–	–	102	–	–	–	–	–	–
Washington	734	–	–	–	*	*	85	30	–	1	20	12	17
Wayne	20	–	–	–	–	–	11	–	–	–	–	–	*
Webster	36	–	–	–	–	–	5	–	–	–	*	–	*
Total	6,455	–	–	–	1	1	1,492	68	–	13	114	54	177
Southwestern													
Adair	4	–	–	–	–	–	2	–	–	–	–	–	*
Cass	34	–	–	–	–	–	–	–	–	–	–	–	–
Fremont	88	–	–	–	–	–	43	–	–	–	–	–	–
Harrison	34	–	–	–	–	–	–	–	–	–	–	–	–
Mills	37	–	–	–	–	–	–	–	–	–	–	–	1
Montgomery	34	–	–	–	–	–	–	–	–	–	–	–	–
Page	88	–	–	–	–	–	43	–	–	–	–	–	–
Pottawattamie	34	–	–	–	–	–	–	–	–	–	–	–	–
Ringgold	21	–	–	–	–	–	14	–	–	–	–	–	1
Shelby	34	–	–	–	–	–	–	–	–	–	–	–	–
Taylor	2	–	–	–	–	–	–	–	–	–	–	–	–
Woodbury	49	–	–	–	–	–	–	–	–	–	–	–	–
Total	457	–	–	–	–	–	101	–	–	–	–	–	3
State total	17,457	*	24	13	29	66	2,702	1,028	1	20	261	81	441

(Table 5 continued on next page)

(Table 5 continued)

Forest Survey Unit and county	Hardwoods												
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	Total hardwoods
Northeastern													
Allamakee	*	322	*	29	21	32	594	332	5	62	26	–	1,643
Benton	–	13	–	*	–	2	6	15	–	*	–	–	245
Black Hawk	–	3	–	–	–	–	*	2	–	3	*	–	32
Bremer	–	–	*	8	–	*	5	25	–	3	*	–	59
Buchanan	–	1	–	–	–	–	3	2	–	*	*	–	15
Butler	–	–	*	8	–	–	5	25	–	3	*	–	46
Cedar	–	34	*	18	–	5	48	15	–	4	1	–	166
Chickasaw	–	–	*	10	–	–	7	32	–	3	1	–	62
Clayton	–	110	*	22	7	24	510	333	1	95	27	–	1,481
Clinton	–	7	–	–	–	16	13	12	–	1	*	–	100
Delaware	–	175	–	–	5	9	288	107	–	44	25	–	805
Dubuque	–	269	8	487	10	101	537	241	–	90	79	–	2,320
Fayette	–	19	*	22	1	4	253	132	1	26	15	–	574
Floyd	–	1	*	11	–	*	12	64	–	4	2	–	111
Howard	–	1	*	8	–	–	5	25	–	3	*	–	47
Jackson	–	185	–	–	6	23	121	86	–	23	3	–	541
Johnson	–	37	–	–	–	3	18	6	–	7	1	–	76
Jones	–	207	–	9	–	5	164	59	–	45	20	–	706
Linn	–	47	–	–	–	4	90	38	–	17	11	–	273
Mitchell	–	2	*	58	–	–	6	32	–	4	1	–	113
Scott	–	*	–	–	–	12	9	*	–	–	–	–	21
Tama	–	15	–	6	–	2	14	17	–	6	1	–	426
Winneshiek	–	27	*	15	3	12	74	101	1	11	4	–	275
Total	*	1,475	10	710	54	255	2,781	1,697	8	451	221	–	10,137
Northwestern													
Clay	–	3	–	–	–	*	16	*	–	13	*	–	40
Hancock	–	–	–	–	–	–	–	9	–	–	–	–	9
Kossuth	–	1	–	43	–	–	–	–	–	7	–	–	73
Lyon	–	1	–	3	–	–	–	–	–	–	*	*	5
Plymouth	–	–	–	49	–	–	–	–	–	–	–	–	49
Winnebago	–	1	–	–	–	–	–	153	–	2	–	–	158
Worth	–	2	–	4	–	–	–	2	–	–	–	–	10
Total	–	6	–	99	–	*	16	164	–	23	*	*	344

(Table 5 continued on next page)

(Table 5 continued)

Forest Survey Unit and county	Hardwoods												
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	Total hardwoods
Southeastern													
Appanoose	–	6	–	49	–	–	45	72	–	2	–	–	273
Boone	–	4	–	–	–	2	26	49	–	20	1	–	111
Clarke	–	2	–	–	–	–	–	–	–	–	–	–	16
Dallas	–	*	–	76	–	–	–	–	–	–	–	–	77
Davis	–	2	6	40	–	–	51	70	–	*	–	–	299
Decatur	–	15	–	–	–	3	3	1	–	–	–	–	31
Des Moines	–	10	2	79	–	1	94	75	–	3	4	–	376
Hardin	–	–	–	171	–	–	8	13	–	*	18	–	500
Henry	–	43	1	44	–	–	47	90	–	2	1	–	272
Iowa	–	36	2	34	–	1	20	18	–	*	3	–	178
Jasper	–	*	–	–	–	–	15	22	–	–	–	–	129
Jefferson	–	34	12	81	–	–	94	107	–	–	–	–	394
Keokuk	–	34	13	96	–	*	90	99	–	*	2	–	445
Lee	–	72	8	93	–	5	154	75	–	5	4	–	581
Louisa	–	66	1	5	–	–	18	38	–	1	4	–	171
Lucas	–	2	–	8	–	–	12	18	–	1	–	–	63
Madison	–	8	–	–	–	–	3	–	–	*	–	–	13
Mahaska	–	–	13	94	–	–	94	99	–	*	2	–	422
Marion	–	1	–	–	–	–	–	–	–	1	–	–	19
Marshall	–	*	–	–	–	–	1	*	–	*	–	–	3
Monroe	–	15	–	12	–	*	42	91	–	2	*	–	178
Muscatine	–	11	1	–	–	–	21	25	–	1	–	–	79
Polk	–	–	–	–	–	*	–	–	–	–	–	–	*
Poweshiek	–	14	*	7	–	3	3	14	–	3	*	–	50
Van Buren	–	18	7	43	–	3	61	86	–	4	*	–	334
Wapello	–	2	12	61	–	3	123	197	–	1	–	–	479
Warren	–	6	–	–	–	–	2	61	–	–	–	–	172
Washington	–	79	13	97	–	11	177	157	–	24	11	–	734
Wayne	–	5	–	–	–	–	3	–	–	1	–	–	20
Webster	–	5	–	–	–	–	5	17	–	4	*	–	36
Total	–	489	91	1,091	–	31	1,211	1,495	–	77	51	–	6,454
Southwestern													
Adair	–	2	–	–	–	–	–	–	–	–	–	–	4
Cass	–	34	–	–	–	–	–	–	–	–	–	–	34
Fremont	–	45	–	–	–	–	–	–	–	–	–	–	88
Harrison	–	34	–	*	–	–	–	*	–	–	–	–	34
Mills	–	34	–	–	–	–	–	1	–	–	–	–	37
Montgomery	–	34	–	–	–	–	–	–	–	–	–	–	34
Page	–	45	–	–	–	–	–	–	–	–	–	–	88
Pottawattamie	–	34	–	–	–	–	–	–	–	–	–	–	34
Ringgold	–	6	–	–	–	–	–	–	–	–	–	–	21
Shelby	–	34	–	–	–	–	–	–	–	–	–	–	34
Taylor	–	2	–	–	–	–	–	–	–	–	–	–	2
Woodbury	–	–	–	49	–	–	–	–	–	–	–	–	49
Total	–	302	–	49	–	–	–	2	–	–	–	–	457
State total	*	2,272	101	1,948	54	286	4,007	3,358	8	550	272	*	17,391

* *Less than 500 cubic feet.*

Table 6.--Industrial roundwood production by species group and destination, Iowa, 2000

(In thousand cubic feet)

Species group	Total	Destination										
		Illinois	Indiana	Iowa	Michigan	Minnesota	Missouri	Nebraska	South Dakota	Wisconsin	Ohio	Other countries
Softwoods												
Spruce	*	–	–	–	–	–	–	–	*	–	–	–
Jack pine	24	–	–	–	–	–	–	–	–	24	–	–
Red pine	13	–	–	–	–	–	–	–	*	13	–	–
White pine	29	–	–	29	–	–	–	–	–	–	–	–
Total	66	–	–	29	–	–	–	–	*	37	–	–
Hardwoods												
Soft maple	2,702	3	1	2,397	–	–	274	–	–	27	–	–
Hard maple	1,028	15	34	701	29	10	–	–	–	207	3	28
Paper birch	1	–	–	–	–	–	–	–	–	1	–	–
River birch	20	–	–	20	–	–	–	–	–	–	–	–
Hickory	261	–	2	244	–	4	–	–	–	10	–	–
Hackberry	81	–	–	80	–	–	–	–	–	2	–	–
Ash	441	3	7	387	–	–	15	1	*	25	–	1
Butternut	*	–	–	–	–	–	–	–	–	*	–	80
Black walnut	2,272	64	53	1,912	1	1	94	2	1	50	13	–
Sycamore	101	–	–	82	–	–	19	–	–	–	–	–
Cottonwood	1,948	1	–	1,729	–	–	68	146	3	*	–	–
Aspen	54	–	–	18	–	–	–	–	–	36	–	–
Black cherry	286	6	50	207	4	–	–	–	–	19	–	–
Red oak group	4,007	77	34	2,995	14	78	124	–	–	682	–	3
White oak group	3,358	42	103	2,756	5	45	106	2	–	255	1	42
Willow	8	–	–	8	–	–	–	–	–	–	–	–
Basswood	550	–	–	431	–	13	–	–	–	106	–	–
Elm	272	1	1	241	–	3	–	–	*	23	2	1
Northern catalpa	*	–	–	–	–	–	–	–	*	–	–	–
Total	17,391	212	285	14,209	53	154	701	152	5	1,445	19	155
All species	17,457	212	285	14,238	53	154	701	152	5	1,482	19	155

* *Less than 500 cubic feet.*

Table 7.--Saw log receipts by species group, Iowa, 1994 and 2000

(In thousand board feet)[1]

Species group	1994	2000	Change 1994-2000
Softwoods			
Eastern redcedar	37	–	-37
Red pine	7	–	-7
White pine	58	167	109
Total	102	167	65
Hardwoods			
Soft maple	15,486	20,063	4,577
Hard maple	4,330	4,764	434
River birch	100	38	-62
Hickory	1,601	1,646	45
Pecan	–	28	28
Hackberry	1,121	607	-514
Ash	2,842	2,668	-174
Honeylocust	30	–	-30
Butternut	25	–	-25
Black walnut	6,734	9,043	2,309
Sycamore	316	627	311
Cottonwood	16,919	11,664	-5,255
Aspen	548	229	-319
Black cherry	642	1,636	994
Red oak group	23,761	20,353	-3,408
White oak group	16,698	17,802	1,104
Black locust	18	–	-18
Willow	194	145	-49
Basswood	5,038	3,536	-1,502
Elm	1,724	1,150	-574
Other hardwoods	14	–	-14
Total	98,139	95,998	-2,141
All species	98,241	96,165	-2,076

[1] *International 1/4-inch rule.*

Table 8.--Saw log production by species group and destination, Iowa, 2000

(In thousand board feet)[1]

Species group	Total	Destination						
		Illinois	Iowa	Minnesota	Missouri	Nebraska	South Dakota	Wisconsin
Softwoods								
Spruce	*	–	–	–	–	–	*	–
Red pine	*	–	–	–	–	–	*	–
White pine	167	–	167	–	–	–	–	–
Total	167	–	167	–	–	–	*	–
Hardwoods								
Soft maple	15,069	17	13,220	–	1,666	–	–	166
Hard maple	5,476	13	4,144	61	–	–	–	1,258
Paper birch	9	–	–	–	–	–	–	9
River birch	38	–	38	–	–	–	–	–
Hickory	1,283	–	1,198	26	–	–	–	59
Hackberry	495	–	485	–	–	–	–	10
Ash	2,197	13	1,936	–	91	–	2	154
Butternut	2	–	–	–	–	–	–	2
Black walnut	9,259	159	8,425	–	431	11	4	230
Sycamore	568	–	454	–	114	–	–	–
Cottonwood	9,673	8	8,124	–	481	1,035	23	1
Aspen	330	–	109	–	–	–	–	220
Black cherry	1,403	36	1,249	–	–	–	–	118
Red oak group	21,155	433	15,860	438	697	–	–	3,727
White oak group	16,963	165	14,916	254	195	*	–	1,432
Willow	47	–	47	–	–	–	–	–
Basswood	3,303	–	2,580	79	–	–	–	645
Elm	1,201	4	1,040	18	–	–	*	138
Northern Catalpa	1	–	–	–	–	–	1	–
Total	88,471	849	73,824	876	3,675	1,046	30	8,171
All species	88,639	849	73,991	876	3,675	1,046	31	8,171

* *Less than 500 board feet.*

[1] *International 1/4-inch rule.*

Table 9.--Saw log production by Forest Survey Unit, county, and species group, Iowa, 2000

(In thousand board feet)[1]

Forest Survey Unit and county	All species	Softwoods			Total softwoods	Hardwoods							
		Spruce	Red pine	White pine		Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash	Butternut
Northeastern													
Allamakee	8,271	–	–	1	1	134	768	9	–	126	20	149	2
Benton	1,459	–	–	–	–	1,246	–	–	–	–	1	17	–
Black Hawk	190	–	–	–	–	109	8	–	–	–	–	29	–
Bremer	352	–	–	3	3	72	1	–	–	3	3	29	–
Buchanan	87	–	–	–	–	46	–	–	–	*	–	5	–
Butler	279	–	–	3	3	3	1	–	–	1	3	28	–
Cedar	912	–	–	–	–	166	3	–	3	15	14	35	–
Chickasaw	368	–	–	3	3	3	4	–	–	1	8	33	–
Clayton	7,668	–	–	1	1	27	1,492	–	–	107	14	254	–
Clinton	548	–	–	–	–	313	–	–	–	1	–	2	–
Delaware	4,183	–	–	–	–	–	641	–	–	41	3	86	–
Dubuque	7,703	–	–	–	–	102	927	–	9	144	39	203	–
Fayette	3,282	–	–	139	139	9	358	–	–	50	19	81	–
Floyd	650	–	–	3	3	29	10	–	–	1	14	47	–
Howard	284	–	–	3	3	3	3	–	–	1	3	28	–
Jackson	2,574	–	–	–	–	370	136	–	–	21	–	26	–
Johnson	395	–	–	–	–	–	–	–	–	6	–	18	–
Jones	3,618	–	–	–	–	522	465	–	–	42	3	36	–
Linn	1,501	–	–	–	–	26	295	–	–	40	3	36	–
Mitchell	727	–	–	3	3	8	5	–	–	1	8	34	–
Scott	126	–	–	–	–	–	*	–	–	–	–	3	–
Tama	2,557	–	–	–	–	2,182	–	–	–	5	4	25	–
Winneshiek	1,238	–	–	1	1	6	35	–	–	12	7	42	–
Total	48,972	–	–	160	160	5,377	5,152	9	12	619	164	1,245	2
Northwestern													
Clay	231	–	–	–	–	41	–	–	–	1	–	7	–
Hancock	48	–	–	–	–	–	–	–	–	–	–	–	–
Kossuth	485	–	–	–	–	124	–	–	–	–	–	13	–
Lyon	31	*	*	–	*	–	–	–	–	–	–	2	–
Plymouth	345	–	–	–	–	–	–	–	–	–	–	–	–
Winnebago	892	–	–	–	–	5	12	–	–	–	–	–	–
Worth	62	–	–	–	–	14	–	–	–	–	–	–	–
Total	2,095	*	*	–	*	184	12	–	–	1	–	23	–

(Table 9 continued on next page)

(Table 9 continued)

Forest Survey Unit and county	All species	Softwoods				Hardwoods							
		Spruce	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash	Butternut
Southeastern													
Appanoose	1,644	–	–	–	–	584	–	–	–	4	–	11	–
Boone	631	–	–	–	–	14	32	–	–	1	–	3	–
Clarke	95	–	–	–	–	83	–	–	–	–	–	6	–
Dallas	545	–	–	–	–	4	–	–	–	–	–	1	–
Davis	1,796	–	–	–	–	775	–	–	–	7	–	4	–
Decatur	91	–	–	–	–	55	–	–	–	–	–	4	–
Des Moines	1,374	–	–	–	–	379	6	–	–	57	19	56	–
Hardin	3,198	–	–	–	–	1,253	54	–	–	3	22	433	–
Henry	1,168	–	–	–	–	121	10	–	–	40	1	42	–
Iowa	1,043	–	–	1	1	331	–	–	1	21	18	20	–
Jasper	767	–	–	–	–	559	–	–	–	–	–	–	–
Jefferson	2,330	–	–	–	–	294	–	–	4	66	35	–	–
Keokuk	2,663	–	–	1	1	522	–	–	7	69	54	23	–
Lee	2,607	–	–	–	–	703	6	–	–	58	18	58	–
Louisa	536	–	–	–	–	69	6	–	–	28	1	16	–
Lucas	373	–	–	–	–	124	–	–	–	–	–	10	–
Madison	63	–	–	–	–	3	6	–	–	–	–	–	–
Mahaska	2,569	–	–	–	–	566	–	–	4	68	52	32	–
Marion	116	–	–	–	–	104	–	–	–	–	–	3	–
Marshall	12	–	–	–	–	–	*	–	–	–	–	1	–
Monroe	1,007	–	–	–	–	83	–	–	–	–	–	10	–
Muscatine	401	–	–	–	–	69	6	–	–	28	1	16	–
Polk	1	–	–	–	–	–	–	–	–	–	–	–	–
Poweshiek	157	–	–	3	3	26	1	–	–	2	1	5	–
Van Buren	1,619	–	–	–	–	564	4	–	–	44	1	42	–
Wapello	2,821	–	–	–	–	376	–	–	4	48	35	21	–
Warren	1,004	–	–	–	–	618	–	–	–	–	–	–	–
Washington	4,280	–	–	1	1	515	182	–	6	119	72	103	–
Wayne	113	–	–	–	–	69	–	–	–	–	–	3	–
Webster	201	–	–	–	–	32	–	–	–	1	–	1	–
Total	35,224	–	–	7	7	8,894	312	–	26	663	331	922	–
Southwestern													
Adair	22	–	–	–	–	14	–	–	–	–	–	1	–
Cass	153	–	–	–	–	–	–	–	–	–	–	–	–
Fremont	466	–	–	–	–	259	–	–	–	–	–	–	–
Harrison	156	–	–	–	–	–	–	–	–	–	–	–	–
Mills	155	–	–	–	–	–	–	–	–	–	–	–	–
Montgomery	153	–	–	–	–	–	–	–	–	–	–	–	–
Page	465	–	–	–	–	258	–	–	–	–	–	–	–
Pottawattamie	153	–	–	–	–	–	–	–	–	–	–	–	–
Ringgold	117	–	–	–	–	83	–	–	–	–	–	7	–
Shelby	153	–	–	–	–	–	–	–	–	–	–	–	–
Taylor	10	–	–	–	–	–	–	–	–	–	–	–	–
Woodbury	345	–	–	–	–	–	–	–	–	–	–	–	–
Total	2,349	–	–	–	–	614	–	–	–	–	–	8	–
State total	88,639	*	*	167	167	15,069	5,476	9	38	1,283	495	2,197	2

(Table 9 continued on next page)

(Table 9 continued)

Forest Survey Unit and county	Hardwoods											
	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	Total hardwoods
Northeastern												
Allamakee	1,259	1	205	128	92	3,257	1,565	28	375	151	–	8,269
Benton	60	–	3	–	14	33	82	–	2	–	–	1,459
Black Hawk	14	–	–	–	–	2	10	–	18	*	–	190
Bremer	–	1	55	–	*	29	138	–	15	3	–	350
Buchanan	3	–	–	–	–	19	12	–	2	*	–	87
Butler	–	1	55	–	–	28	138	–	15	3	–	276
Cedar	155	1	124	–	29	254	83	–	24	8	–	912
Chickasaw	–	1	68	–	–	41	181	–	17	8	–	366
Clayton	347	1	153	45	87	2,733	1,669	5	576	158	–	7,666
Clinton	–	–	–	–	97	72	58	–	5	1	–	548
Delaware	779	–	–	32	54	1,583	597	–	270	96	–	4,183
Dubuque	1,164	–	20	63	585	2,563	1,128	–	544	213	–	7,703
Fayette	59	1	153	8	25	1,388	740	5	155	90	–	3,142
Floyd	6	1	77	–	3	66	357	–	22	14	–	647
Howard	3	1	55	–	–	28	138	–	15	3	–	281
Jackson	734	–	–	38	95	671	324	–	142	17	–	2,574
Johnson	169	–	–	–	20	103	33	–	41	6	–	395
Jones	926	–	28	–	28	902	329	–	271	68	–	3,618
Linn	193	–	–	–	23	503	212	–	102	68	–	1,501
Mitchell	9	1	413	–	–	34	178	–	23	8	–	724
Scott	*	–	–	–	73	48	2	–	–	–	–	126
Tama	70	–	44	–	14	76	93	–	37	7	–	2,557
Winneshiek	35	1	109	16	28	384	463	9	64	26	–	1,237
Total	5,987	15	1,562	330	1,267	14,815	8,528	47	2,736	947	–	48,812
Northwestern												
Clay	11	–	–	–	*	88	*	–	80	2	–	231
Hancock	–	–	–	–	–	–	48	–	–	–	–	48
Kossuth	3	–	304	–	–	–	–	–	42	–	–	485
Lyon	4	–	23	–	–	–	–	–	–	*	1	30
Plymouth	–	–	345	–	–	–	–	–	–	–	–	345
Winnebago	3	–	–	–	–	–	857	–	15	–	–	892
Worth	7	–	28	–	–	–	14	–	–	–	–	62
Total	28	–	699	–	*	88	919	–	137	2	1	2,094

(Table 9 continued on next page)

(Table 9 continued)

Forest Survey Unit and county	Hardwoods											Total hardwoods
	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	
Southeastern												
Appanoose	28	–	348	–	–	254	404	–	11	–	–	1,644
Boone	17	–	–	–	14	146	277	–	123	4	–	631
Clarke	7	–	–	–	–	–	–	–	–	–	–	95
Dallas	2	–	538	–	–	–	–	–	–	–	–	545
Davis	8	38	282	–	–	285	393	–	3	–	–	1,796
Decatur	14	–	–	–	–	18	–	–	–	–	–	91
Des Moines	15	11	366	–	–	223	221	–	8	12	–	1,374
Hardin	–	–	1,210	–	–	45	71	–	1	108	–	3,198
Henry	197	4	183	–	–	224	333	–	8	4	–	1,168
Iowa	166	11	242	–	3	110	101	–	2	15	–	1,041
Jasper	1	–	–	–	–	83	124	–	–	–	–	767
Jefferson	155	72	575	–	–	529	600	–	–	–	–	2,330
Keokuk	155	81	676	–	1	506	553	–	1	12	–	2,661
Lee	330	51	400	–	28	662	275	–	8	10	–	2,607
Louisa	170	4	–	–	–	99	135	–	8	–	–	536
Lucas	7	–	55	–	–	66	104	–	7	–	–	373
Madison	39	–	–	–	–	14	–	–	1	–	–	63
Mahaska	–	79	667	–	–	527	557	–	3	14	–	2,569
Marion	4	–	–	–	–	–	–	–	6	–	–	116
Marshall	1	–	–	–	–	8	1	–	1	–	–	12
Monroe	67	–	83	–	2	237	511	–	14	1	–	1,007
Muscatine	17	4	–	–	–	116	135	–	8	–	–	401
Polk	–	–	–	–	1	–	–	–	–	–	–	1
Poweshiek	3	3	52	–	1	15	23	–	18	1	–	154
Van Buren	19	42	271	–	*	342	268	–	21	–	–	1,619
Wapello	8	72	435	–	19	690	1,107	–	7	–	–	2,821
Warren	28	–	–	–	–	14	345	–	–	–	–	1,004
Washington	359	81	684	–	66	996	883	–	144	69	–	4,279
Wayne	21	–	–	–	–	15	–	–	6	–	–	113
Webster	24	–	–	–	–	25	94	–	22	1	–	201
Total	1,862	553	7,067	–	137	6,252	7,516	–	431	252	–	35,217
Southwestern												
Adair	8	–	–	–	–	–	–	–	–	–	–	22
Cass	153	–	–	–	–	–	–	–	–	–	–	153
Fremont	207	–	–	–	–	–	–	–	–	–	–	466
Harrison	155	–	*	–	–	–	*	–	–	–	–	156
Mills	155	–	–	–	–	–	–	–	–	–	–	155
Montgomery	153	–	–	–	–	–	–	–	–	–	–	153
Page	207	–	–	–	–	–	–	–	–	–	–	465
Pottawattamie	153	–	–	–	–	–	–	–	–	–	–	153
Ringgold	28	–	–	–	–	–	–	–	–	–	–	117
Shelby	153	–	–	–	–	–	–	–	–	–	–	153
Taylor	10	–	–	–	–	–	–	–	–	–	–	10
Woodbury	–	–	345	–	–	–	–	–	–	–	–	345
Total	1,382	–	345	–	–	–	*	–	–	–	–	2,349
State total	9,259	568	9,673	330	1,403	21,155	16,963	47	3,303	1,201	1	88,471

* *Less than 500 board feet.*

[1] *International 1/4-inch rule.*

Table 10.--Saw log production by species group, Iowa, 1972, 1980, 1988, 1994, and 2000

(In thousand board feet)[1]

Species group	1972	1980	1988	1994	2000	Change 1994-2000
Softwoods						
Spruce	–	–	–	–	*	*
Eastern redcedar	–	3	10	37	–	-37
Red pine	2	–	4	7	*	-7
White pine	103	–	4	58	167	109
Total	105	3	18	102	167	65
Hardwoods						
Soft maple	6,474	5,089	5,077	13,889	15,069	1,180
Hard maple	1,568	3,367	3,275	4,721	5,476	755
Paper birch	–	–	–	–	9	9
River birch	472	152	10	78	38	-40
Hickory	783	447	432	1,158	1,283	125
Hackberry	568	498	284	985	495	-490
Ash	1,649	1,636	1,867	2,491	2,197	-294
Honeylocust	–	–	–	35	–	-35
Butternut	–	–	–	25	2	-23
Black walnut	2,669	5,025	3,649	5,769	9,259	3,490
Sycamore	–	–	–	248	568	320
Cottonwood	10,774	12,831	14,582	19,644	9,673	-9,971
Aspen	188	305	24	381	330	-51
Black cherry	113	132	252	647	1,403	756
Red oak group	11,079	16,470	21,394	18,235	21,155	2,920
White oak group	6,508	12,118	10,743	14,057	16,963	2,906
Black locust	–	–	–	18	–	-18
Willow	438	233	7	124	47	-77
Basswood	2,205	2,185	1,724	4,417	3,303	-1,114
Elm	7,808	2,866	1,144	1,684	1,201	-483
Other hardwoods	93	118	83	48	1	-47
Total	53,389	63,472	64,547	88,655	88,471	-184
All species	53,494	63,475	64,565	88,757	88,639	-118

* *Less than 500 board feet.*

[1] *International 1/4-inch rule.*

Table 11.--Veneer log production by species group, Iowa, 1972, 1980, 1988, 1994, and 2000

(In thousand board feet)[1]

Species group	Survey year					Change
	1972	1980	1988	1994	2000	1994-2000
Soft maple	122	24	572	81	3	-78
Hard maple	216	14	–	51	469	418
River birch	–	–	–	–	1	1
Hickory	–	–	–	–	11	11
Ash	111	57	–	2	42	40
Black walnut	1,238	1,795	1,084	902	1,742	840
Cottonwood	84	23	27	84	–	-84
Black cherry	–	–	3	46	237	191
Red oak group	920	1,132	383	340	303	-37
White oak group	19	672	405	1,165	776	-389
Basswood	252	84	208	156	–	-156
Elm	440	–	8	18	23	5
Other hardwoods	613	–	10	2	–	-2
All species	4,015	3,801	2,700	2,848	3,607	759

[1] *International 1/4-inch rule.*

Table 12.--Pulpwood production by species group, Iowa, 1994 and 2000

(In standard cords, unpeeled)[1]

Species group	1994	2000	Change 1994-2000
Softwoods			
Jack pine	–	306	306
Red pine	–	161	161
Total	–	468	468
Hardwoods			
Soft maple	1,754	2,781	1,027
Hard maple	146	233	87
River birch	108	171	63
Hickory	372	591	219
Ash	541	860	319
Sycamore	61	98	37
Cottonwood	4,634	7,351	2,717
Black cherry	9	14	5
Red oak group	1,372	2,176	804
White oak group	702	1,113	411
Basswood	49	76	27
Elm	548	870	322
Total	10,298	16,335	6,037
All species	10,298	16,802	6,504

[1] *Standard cords are 128 cubic feet, consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.*

Table 13.--Timber removals for industrial roundwood by species group and source of material, Iowa, 2000[1]

(In thousand cubic feet)

Species group	Source of material: Growing stock: Used for products: Sawtimber	Growing stock: Used for products: Pole-timber	Growing stock: Logging residue (not used)	Growing stock: Total growing stock	Non-growing stock: Used for products: Limbwood	Saplings	Cull trees	Dead trees	Nonforest trees	Non-growing stock: Logging slash (not used)	Non-growing stock: Total non-growing stock	Total wood material used	Total wood material not used	Total wood material harvested
Softwoods														
Spruce	*	*	*	*	*	–	*	–	–	*	*	*	*	0.1
Jack pine	6.3	17.5	0.3	24.0	–	–	0.5	–	–	2.1	2.5	24.2	2.4	26.6
Red pine	3.4	9.2	0.2	12.7	*	–	0.2	–	–	1.1	1.4	12.8	1.3	14.1
White pine	28.0	0.3	3.6	31.9	0.5	–	0.2	–	–	16.5	17.3	29.0	20.2	49.2
Total	37.7	26.9	4.1	68.6	0.5	–	0.9	–	–	19.8	21.2	66.0	23.8	89.9
Hardwoods														
Soft maple	1,939.4	156.5	777.8	2,873.8	55.1	7.5	178.0	2.7	363.2	1,771.3	2,377.7	2,702.3	2,549.1	5,251.4
Hard maple	795.7	25.7	290.6	1,112.0	11.7	0.7	61.5	0.2	132.0	645.5	851.6	1,027.5	936.1	1,963.6
Paper birch	1.1	*	0.4	1.5	*	–	0.1	–	0.2	1.0	1.3	1.4	1.5	2.9
River birch	11.1	3.6	2.3	17.0	2.2	0.2	1.9	0.1	0.9	4.9	10.2	20.0	7.2	27.2
Hickory	172.3	30.8	66.5	269.6	8.2	1.8	15.8	0.6	30.9	151.7	209.1	260.5	218.2	478.7
Hackberry	61.8	1.4	25.5	88.7	0.8	–	5.5	–	11.9	57.9	76.2	81.5	83.4	164.8
Ash	313.7	25.3	115.5	454.5	14.1	1.2	31.5	0.6	54.0	259.8	360.2	440.5	375.3	815.8
Butternut	0.3	*	0.1	0.4	*	–	*	–	0.1	0.3	0.3	0.4	0.4	0.7
Black walnut	1,054.8	–	141.7	1,196.5	–	–	867.6	–	349.9	479.6	1,697.0	2,272.2	621.3	2,893.5
Sycamore	72.2	6.6	29.3	108.1	1.9	0.3	6.5	0.1	13.7	66.8	89.3	101.3	96.1	197.4
Cottonwood	1,378.1	316.8	224.2	1,919.1	179.2	20.8	46.2	7.4	–	702.4	955.9	1,948.5	926.6	2,875.1
Aspen	41.2	0.9	17.0	59.1	0.6	–	3.7	–	7.9	38.6	50.8	54.3	55.6	109.9
Black cherry	230.2	4.0	76.6	310.8	2.6	–	15.8	*	33.8	166.2	218.4	286.4	242.8	529.2
Red oak group	3,231.5	137.2	796.1	4,164.8	78.9	3.2	480.4	75.7	–	1,840.0	2,478.2	4,006.9	2,636.2	6,643.0
White oak group	2,757.6	95.4	664.3	3,517.3	55.9	1.7	386.6	60.2	–	1,479.5	1,984.0	3,357.4	2,143.8	5,501.2
Willow	5.9	0.1	2.4	8.4	0.1	–	0.5	–	1.1	5.5	7.2	7.7	7.9	15.7
Basswood	416.7	9.5	170.4	596.5	6.7	–	37.6	*	79.6	387.0	511.0	550.1	557.4	1,107.5
Elm	178.0	32.1	63.2	273.3	11.8	1.8	18.3	0.8	28.9	142.9	204.6	271.7	206.2	477.9
Northern catalpa	0.1	*	*	0.1	*	–	*	–	*	0.1	0.1	0.1	0.1	0.2
Total	12,661.8	845.8	3,463.9	16,971.5	429.7	39.3	2,157.4	148.5	1,108.2	8,201.1	12,083.2	17,390.7	11,665.0	29,055.7
All species	12,699.4	872.7	3,468.0	17,040.1	430.3	39.3	2,158.4	148.5	1,108.2	8,220.9	12,104.5	17,456.7	11,688.8	29,145.5

* *Less than 50 cubic feet.*

[1] *Based on factors obtained from the regional logging utilization studies.*

Table 14 --Growing-stock removals from timberland for industrial roundwood by Forest Survey Unit, county, and species group, Iowa, 2000

(In thousand cubic feet)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Northeastern													
Allamakee	1,580	–	–	–	*	*	24	160	2	*	23	4	28
Benton	258	–	–	–	–	–	223	–	–	–	–	*	3
Black Hawk	33	–	–	–	–	–	20	1	–	–	–	–	5
Bremer	63	–	–	–	1	1	13	*	–	–	1	*	5
Buchanan	16	–	–	–	–	–	8	–	–	–	*	–	1
Butler	50	–	–	–	1	1	*	*	–	–	*	*	5
Cedar	157	–	–	–	–	–	30	3	–	*	3	2	6
Chickasaw	66	–	–	–	1	1	*	1	–	–	*	1	6
Clayton	1,531	–	–	–	*	*	5	308	–	*	21	2	47
Clinton	107	–	–	–	–	–	56	–	–	*	*	–	1
Delaware	782	–	24	13	–	37	6	119	–	*	7	*	23
Dubuque	2,080	–	–	–	–	–	158	179	–	5	59	7	58
Fayette	628	–	–	–	27	27	2	78	–	–	9	3	17
Floyd	117	–	–	–	1	1	5	2	–	–	*	2	8
Howard	50	–	–	–	1	1	*	1	–	–	*	*	5
Jackson	481	–	–	–	–	–	66	27	–	*	4	–	5
Johnson	59	–	–	–	–	–	–	–	–	–	1	–	3
Jones	623	–	–	–	–	–	101	88	–	–	8	*	12
Linn	266	–	–	–	–	–	5	53	–	–	7	*	6
Mitchell	120	–	–	–	1	1	1	1	–	–	*	1	6
Scott	23	–	–	–	–	–	–	*	–	–	–	–	1
Tama	454	–	–	–	–	–	391	–	–	–	1	1	4
Winneshiek	286	–	–	–	*	*	1	16	–	*	2	1	8
Total	9,831	–	24	13	31	67	1,117	1,037	2	6	147	29	265
Northwestern													
Clay	41	–	–	–	–	–	7	–	–	–	*	–	1
Hancock	9	–	–	–	–	–	–	–	–	–	–	–	–
Kossuth	78	–	–	–	–	–	22	–	–	–	–	–	2
Lyon	5	*	–	*	–	*	–	–	–	–	–	–	*
Plymouth	52	–	–	–	–	–	–	–	–	–	–	–	–
Winnebago	167	–	–	–	–	–	1	2	–	–	–	–	–
Worth	10	–	–	–	–	–	2	–	–	–	–	–	–
Total	362	*	–	*	–	*	33	2	–	–	*	–	4

(Table 14 continued on next page)

(Table 14 continued)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Southeastern													
Appanoose	288	–	–	–	–	–	105	–	–	–	1	–	2
Boone	115	–	–	–	–	–	3	6	–	–	*	–	1
Clarke	17	–	–	–	–	–	15	–	–	–	–	–	1
Dallas	83	–	–	–	–	–	1	–	–	–	–	–	*
Davis	319	–	–	–	–	–	139	–	–	–	1	–	1
Decatur	31	–	–	–	–	–	10	–	–	*	–	–	1
Des Moines	355	–	–	–	–	–	74	2	–	2	11	3	17
Hardin	540	–	–	–	–	–	225	10	–	–	*	4	78
Henry	248	–	–	–	–	–	25	2	–	1	8	*	9
Iowa	170	–	–	–	*	*	59	–	–	*	4	3	4
Jasper	139	–	–	–	–	–	100	–	–	–	–	–	–
Jefferson	399	–	–	–	–	–	53	–	–	1	12	6	–
Keokuk	456	–	–	–	*	*	94	–	–	1	12	10	4
Lee	538	–	–	–	–	–	133	2	–	2	12	3	18
Louisa	152	–	–	–	–	–	14	15	–	*	5	*	5
Lucas	66	–	–	–	–	–	22	–	–	–	–	–	2
Madison	8	–	–	–	–	–	*	1	–	–	–	–	–
Mahaska	451	–	–	–	–	–	102	–	–	1	12	9	6
Marion	20	–	–	–	–	–	19	–	–	–	–	–	*
Marshall	3	–	–	–	–	–	–	1	–	–	–	–	*
Monroe	179	–	–	–	–	–	15	–	–	–	–	–	2
Muscatine	81	–	–	–	–	–	12	2	–	*	5	*	3
Polk	*	–	–	–	–	–	–	–	–	–	–	–	–
Poweshiek	53	–	–	–	1	1	5	*	–	*	*	*	1
Van Buren	348	–	–	–	–	–	103	1	–	1	8	*	8
Wapello	508	–	–	–	–	–	67	–	–	1	9	6	4
Warren	181	–	–	–	–	–	111	–	–	–	–	–	–
Washington	737	–	–	–	*	*	92	33	–	1	21	13	18
Wayne	19	–	–	–	–	–	12	–	–	–	–	–	*
Webster	35	–	–	–	–	–	6	–	–	–	*	–	*
Total	6,538	–	–	–	1	1	1,614	73	–	11	122	59	184
Southwestern													
Adair	3	–	–	–	–	–	2	–	–	–	–	–	*
Cass	16	–	–	–	–	–	–	–	–	–	–	–	–
Fremont	68	–	–	–	–	–	47	–	–	–	–	–	–
Harrison	16	–	–	–	–	–	–	–	–	–	–	–	–
Mills	18	–	–	–	–	–	–	–	–	–	–	–	1
Montgomery	16	–	–	–	–	–	–	–	–	–	–	–	–
Page	68	–	–	–	–	–	46	–	–	–	–	–	–
Pottawattamie	16	–	–	–	–	–	–	–	–	–	–	–	–
Ringgold	19	–	–	–	–	–	15	–	–	–	–	–	1
Shelby	16	–	–	–	–	–	–	–	–	–	–	–	–
Taylor	1	–	–	–	–	–	–	–	–	–	–	–	–
Woodbury	52	–	–	–	–	–	–	–	–	–	–	–	–
Total	309	–	–	–	–	–	110	–	–	–	–	–	2
State total	17,040	*	24	13	32	69	2,874	1,112	2	17	270	89	455

(Table 14 continued on next page)

(Table 14 continued)

Forest Survey Unit and county	Hardwoods												Total hardwoods
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	
Northeastern													
Allamakee	*	175	*	31	23	35	625	351	5	67	28	–	1,580
Benton	–	6	–	*	–	3	6	15	–	*	–	–	258
Black Hawk	–	1	–	–	–	–	*	2	–	3	*	–	33
Bremer	–	–	*	8	–	*	5	26	–	3	*	–	62
Buchanan	–	*	–	–	–	–	4	2	–	*	*	–	16
Butler	–	–	*	8	–	–	5	26	–	3	*	–	49
Cedar	–	16	*	19	–	5	50	16	–	4	2	–	157
Chickasaw	–	–	*	10	–	–	8	34	–	3	1	–	66
Clayton	–	68	*	23	8	26	538	351	1	103	29	–	1,531
Clinton	–	6	–	–	–	17	13	12	–	1	*	–	107
Delaware	–	86	–	–	6	10	303	113	–	48	24	–	746
Dubuque	–	135	6	390	11	110	546	243	–	97	74	–	2,080
Fayette	–	12	*	23	1	5	267	139	1	28	17	–	602
Floyd	–	1	*	12	–	*	12	67	–	4	2	–	117
Howard	–	*	*	8	–	–	5	26	–	3	*	–	50
Jackson	–	99	–	–	7	25	128	91	–	26	3	–	481
Johnson	–	18	–	–	–	4	19	6	–	7	1	–	59
Jones	–	101	–	8	–	5	172	62	–	49	18	–	623
Linn	–	25	–	–	–	4	95	40	–	18	13	–	266
Mitchell	–	1	*	63	–	–	6	33	–	4	1	–	119
Scott	–	*	–	–	–	13	9	*	–	–	–	–	23
Tama	–	7	–	7	–	2	14	17	–	7	1	–	454
Winneshiek	–	22	*	17	3	13	78	107	2	12	5	–	286
Total	*	779	9	627	59	277	2,909	1,779	8	491	221	–	9,763
Northwestern													
Clay	–	1	–	–	–	*	16	*	–	14	*	–	41
Hancock	–	–	–	–	–	–	–	9	–	–	–	–	9
Kossuth	–	*	–	46	–	–	–	–	–	7	–	–	78
Lyon	–	*	–	3	–	–	–	–	–	–	*	*	4
Plymouth	–	–	–	52	–	–	–	–	–	–	–	–	52
Winnebago	–	*	–	–	–	–	–	161	–	3	–	–	167
Worth	–	1	–	4	–	–	–	3	–	–	–	–	10
Total	–	3	–	106	–	*	16	172	–	24	*	*	362

(Table 14 continued on next page)

(Table 14 continued)

Forest Survey Unit and county	Hardwoods												
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	Total hardwoods
Southeastern													
Appanoose	–	3	–	53	–	–	48	76	–	2	–	–	288
Boone	–	2	–	–	–	3	27	52	–	22	1	–	115
Clarke	–	1	–	–	–	–	–	–	–	–	–	–	17
Dallas	–	*	–	81	–	–	–	–	–	–	–	–	83
Davis	–	1	7	43	–	–	53	74	–	*	–	–	319
Decatur	–	12	–	–	–	3	3	1	–	–	–	–	31
Des Moines	–	8	2	75	–	*	80	75	–	3	4	–	355
Hardin	–	–	–	183	–	–	8	13	–	*	19	–	540
Henry	–	21	1	40	–	–	47	92	–	2	1	–	248
Iowa	–	17	2	37	–	1	21	19	–	*	3	–	169
Jasper	–	*	–	–	–	–	16	23	–	–	–	–	139
Jefferson	–	16	13	87	–	–	99	112	–	–	–	–	399
Keokuk	–	16	15	102	–	*	95	104	–	*	2	–	455
Lee	–	34	9	86	–	5	149	78	–	4	3	–	538
Louisa	–	45	1	3	–	–	19	40	–	1	3	–	152
Lucas	–	1	–	8	–	–	12	19	–	1	–	–	66
Madison	–	4	–	–	–	–	3	–	–	*	–	–	8
Mahaska	–	–	14	101	–	–	99	104	–	*	2	–	451
Marion	–	*	–	–	–	–	–	–	–	1	–	–	20
Marshall	–	*	–	–	–	–	1	*	–	*	–	–	3
Monroe	–	7	–	13	–	*	44	96	–	2	*	–	179
Muscatine	–	8	1	–	–	–	22	27	–	1	–	–	81
Polk	–	–	–	–	–	*	–	–	–	–	–	–	*
Poweshiek	–	12	*	8	–	3	3	15	–	3	*	–	52
Van Buren	–	15	8	44	–	3	64	89	–	4	*	–	348
Wapello	–	1	13	66	–	3	129	207	–	1	–	–	508
Warren	–	3	–	–	–	–	3	65	–	–	–	–	181
Washington	–	38	15	104	–	12	187	165	–	26	12	–	737
Wayne	–	2	–	–	–	–	3	–	–	1	–	–	19
Webster	–	3	–	–	–	–	5	18	–	4	*	–	35
Total	–	271	99	1,134	–	34	1,240	1,565	–	81	52	–	6,537
Southwestern													
Adair	–	1	–	–	–	–	–	–	–	–	–	–	3
Cass	–	16	–	–	–	–	–	–	–	–	–	–	16
Fremont	–	22	–	–	–	–	–	–	–	–	–	–	68
Harrison	–	16	–	*	–	–	–	*	–	–	–	–	16
Mills	–	16	–	–	–	–	–	1	–	–	–	–	18
Montgomery	–	16	–	–	–	–	–	–	–	–	–	–	16
Page	–	22	–	–	–	–	–	–	–	–	–	–	68
Pottawattamie	–	16	–	–	–	–	–	–	–	–	–	–	16
Ringgold	–	3	–	–	–	–	–	–	–	–	–	–	19
Shelby	–	16	–	–	–	–	–	–	–	–	–	–	16
Taylor	–	1	–	–	–	–	–	–	–	–	–	–	1
Woodbury	–	–	–	52	–	–	–	–	–	–	–	–	52
Total	–	144	–	52	–	–	–	1	–	–	–	–	309
State total	*	1,197	108	1,919	59	311	4,165	3,517	8	597	273	*	16,972

* *Less than 500 cubic feet.*

Table 15.--Sawtimber removals from timberland for industrial roundwood by Forest Survey Unit, county, and species group, Iowa, 2000

(In thousand board feet)[1]

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Northeastern													
Allamakee	6,209	–	–	–	1	1	93	620	6	*	88	14	109
Benton	995	–	–	–	–	–	861	–	–	–	–	1	12
Black Hawk	128	–	–	–	–	–	75	5	–	–	–	–	21
Bremer	254	–	–	–	3	3	50	1	–	–	2	2	20
Buchanan	59	–	–	–	–	–	32	–	–	–	*	–	3
Butler	203	–	–	–	3	3	2	1	–	–	1	2	19
Cedar	641	–	–	–	–	–	114	13	–	2	11	10	24
Chickasaw	267	–	–	–	3	3	2	2	–	–	1	6	24
Clayton	5,925	–	–	–	1	1	19	1,196	–	*	79	10	180
Clinton	429	–	–	–	–	–	216	–	–	*	1	–	2
Delaware	2,920	–	33	17	–	50	26	459	–	1	29	2	93
Dubuque	5,833	–	–	–	–	–	193	652	–	10	129	27	160
Fayette	2,449	–	–	–	137	137	7	302	–	–	35	13	67
Floyd	460	–	–	–	3	3	20	7	–	–	1	9	33
Howard	205	–	–	–	3	3	2	2	–	–	1	2	19
Jackson	1,941	–	–	–	–	–	256	104	–	*	15	–	19
Johnson	235	–	–	–	–	–	–	–	–	–	4	–	12
Jones	2,451	–	–	–	–	–	391	340	–	–	29	2	47
Linn	1,024	–	–	–	–	–	18	204	–	–	28	2	25
Mitchell	575	–	–	–	3	3	6	4	–	–	1	6	23
Scott	87	–	–	–	–	–	–	*	–	–	–	–	2
Tama	1,759	–	–	–	–	–	1,508	–	–	–	4	3	17
Winneshiek	1,168	–	–	–	1	1	4	64	–	*	8	5	32
Total	36,218	–	33	17	157	207	3,895	3,978	6	13	468	113	964
Northwestern													
Clay	157	–	–	–	–	–	29	–	–	–	*	–	5
Hancock	33	–	–	–	–	–	–	–	–	–	–	–	–
Kossuth	391	–	–	–	–	–	86	–	–	–	–	–	9
Lyon	25	*	–	*	–	*	–	–	–	–	–	–	2
Plymouth	302	–	–	–	–	–	–	–	–	–	–	–	–
Winnebago	611	–	–	–	–	–	3	9	–	–	–	–	–
Worth	46	–	–	–	–	–	10	–	–	–	–	–	–
Total	1,564	*	–	*	–	*	127	9	–	–	*	–	16

(Table 15 continued on next page)

(Table 15 continued)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Southeastern													
Appanoose	1,190	–	–	–	–	–	403	–	–	–	3	–	8
Boone	430	–	–	–	–	–	10	22	–	–	1	–	2
Clarke	64	–	–	–	–	–	57	–	–	–	–	–	4
Dallas	475	–	–	–	–	–	3	–	–	–	–	–	1
Davis	1,288	–	–	–	–	–	536	–	–	–	5	–	3
Decatur	151	–	–	–	–	–	38	–	–	*	–	–	3
Des Moines	1,537	–	–	–	–	–	286	7	–	10	44	13	66
Hardin	2,431	–	–	–	–	–	866	37	–	–	2	15	299
Henry	1,041	–	–	–	–	–	96	7	–	3	33	1	35
Iowa	728	–	–	–	1	1	229	–	–	1	14	12	14
Jasper	529	–	–	–	–	–	386	–	–	–	–	–	–
Jefferson	1,675	–	–	–	–	–	203	–	–	3	46	24	–
Keokuk	1,925	–	–	–	1	1	361	–	–	5	48	37	16
Lee	2,235	–	–	–	–	–	514	9	–	7	45	12	72
Louisa	678	–	–	–	–	–	55	61	–	1	19	1	20
Lucas	265	–	–	–	–	–	86	–	–	–	–	–	7
Madison	35	–	–	–	–	–	2	4	–	–	–	–	–
Mahaska	1,891	–	–	–	–	–	392	–	–	3	47	36	22
Marion	79	–	–	–	–	–	72	–	–	–	–	–	2
Marshall	10	–	–	–	–	–	–	2	–	–	–	–	*
Monroe	692	–	–	–	–	–	57	–	–	–	–	–	7
Muscatine	324	–	–	–	–	–	48	7	–	*	19	1	11
Polk	1	–	–	–	–	–	–	–	–	–	–	–	–
Poweshiek	255	–	–	–	3	3	18	1	–	*	2	1	3
Van Buren	1,470	–	–	–	–	–	397	3	–	3	31	1	32
Wapello	2,017	–	–	–	–	–	260	–	–	3	33	24	14
Warren	686	–	–	–	–	–	427	–	–	–	–	–	–
Washington	2,999	–	–	–	1	1	356	126	–	4	82	50	71
Wayne	74	–	–	–	–	–	48	–	–	–	–	–	2
Webster	133	–	–	–	–	–	22	–	–	–	1	–	*
Total	27,307	–	–	–	7	7	6,227	285	–	43	473	229	714
Southwestern													
Adair	14	–	–	–	–	–	10	–	–	–	–	–	*
Cass	72	–	–	–	–	–	–	–	–	–	–	–	–
Fremont	276	–	–	–	–	–	179	–	–	–	–	–	–
Harrison	73	–	–	–	–	–	–	–	–	–	–	–	–
Mills	73	–	–	–	–	–	–	–	–	–	–	–	–
Montgomery	72	–	–	–	–	–	–	–	–	–	–	–	–
Page	275	–	–	–	–	–	178	–	–	–	–	–	–
Pottawattamie	72	–	–	–	–	–	–	–	–	–	–	–	–
Ringgold	75	–	–	–	–	–	57	–	–	–	–	–	5
Shelby	72	–	–	–	–	–	–	–	–	–	–	–	–
Taylor	5	–	–	–	–	–	–	–	–	–	–	–	–
Woodbury	302	–	–	–	–	–	–	–	–	–	–	–	–
Total	1,380	–	–	–	–	–	424	–	–	–	–	–	5
State total	66,469	*	33	17	164	214	10,673	4,271	6	56	941	342	1,700

(Table 15 continued on next page)

(Table 15 continued)

Forest Survey Unit and county	Hardwoods												Total hardwoods
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	
Northeastern													
Allamakee	1	887	1	179	88	138	2,292	1,306	19	259	107	–	6,208
Benton	–	28	–	2	–	10	23	56	–	1	–	–	995
Black Hawk	–	6	–	–	–	–	1	7	–	12	*	–	128
Bremer	–	–	1	48	–	*	20	95	–	10	2	–	251
Buchanan	–	1	–	–	–	–	13	8	–	1	*	–	59
Butler	–	–	1	48	–	–	19	95	–	10	2	–	200
Cedar	–	73	1	109	–	20	186	57	–	17	6	–	641
Chickasaw	–	–	1	60	–	–	28	124	–	12	6	–	265
Clayton	–	379	1	134	31	102	1,978	1,300	3	398	114	–	5,924
Clinton	–	44	–	–	–	67	49	45	–	3	*	–	429
Delaware	–	396	–	–	22	38	1,111	412	–	187	93	–	2,870
Dubuque	–	638	5	357	43	425	1,832	801	–	376	184	–	5,833
Fayette	–	68	1	134	6	17	978	508	3	107	65	–	2,312
Floyd	–	3	1	67	–	2	46	244	–	15	9	–	457
Howard	–	2	1	48	–	–	19	95	–	10	2	–	203
Jackson	–	499	–	–	26	98	467	345	–	98	13	–	1,941
Johnson	–	79	–	–	–	14	70	22	–	29	4	–	235
Jones	–	464	–	40	–	19	631	228	–	187	73	–	2,451
Linn	–	121	–	–	–	16	346	145	–	71	48	–	1,024
Mitchell	–	4	1	361	–	–	23	122	–	16	6	–	573
Scott	–	*	–	–	–	51	33	1	–	–	–	–	87
Tama	–	33	–	39	–	10	52	64	–	26	5	–	1,759
Winneshiek	–	139	1	95	11	51	286	400	6	44	18	–	1,167
Total	1	3,864	16	1,722	228	1,078	10,503	6,480	32	1,891	757	–	36,011
Northwestern													
Clay	–	5	–	–	–	*	60	*	–	55	1	–	157
Hancock	–	–	–	–	–	–	–	33	–	–	–	–	33
Kossuth	–	1	–	266	–	–	–	–	–	29	–	–	391
Lyon	–	2	–	20	–	–	–	–	–	–	*	*	24
Plymouth	–	–	–	302	–	–	–	–	–	–	–	–	302
Winnebago	–	2	–	–	–	–	–	587	–	10	–	–	611
Worth	–	3	–	24	–	–	–	9	–	–	–	–	46
Total	–	13	–	611	–	*	60	630	–	94	1	*	1,563

(Table 15 continued on next page)

(Table 15 continued)

Forest Survey Unit and county	Hardwoods												Total hardwoods
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	
Southeastern													
Appanoose	–	13	–	304	–	–	174	277	–	8	–	–	1,190
Boone	–	8	–	–	–	10	100	190	–	85	3	–	430
Clarke	–	3	–	–	–	–	–	–	–	–	–	–	64
Dallas	–	1	–	471	–	–	–	–	–	–	–	–	475
Davis	–	4	26	247	–	–	196	270	–	2	–	–	1,288
Decatur	–	81	–	–	–	11	12	6	–	–	–	–	151
Des Moines	–	51	8	401	–	2	314	310	–	10	14	–	1,537
Hardin	–	–	–	1,058	–	–	31	48	–	*	75	–	2,431
Henry	–	92	3	214	–	–	175	371	–	8	4	–	1,041
Iowa	–	78	8	211	–	2	76	69	–	2	11	–	727
Jasper	–	1	–	–	–	–	57	85	–	–	–	–	529
Jefferson	–	73	50	503	–	–	362	411	–	–	–	–	1,675
Keokuk	–	73	56	591	–	1	347	379	–	1	9	–	1,923
Lee	–	155	35	458	–	21	561	318	–	15	13	–	2,235
Louisa	–	265	3	14	–	–	68	152	–	6	13	–	678
Lucas	–	3	–	48	–	–	45	71	–	5	–	–	265
Madison	–	18	–	–	–	–	10	–	–	*	–	–	35
Mahaska	–	–	54	583	–	–	361	382	–	2	10	–	1,891
Marion	–	2	–	–	–	–	–	–	–	4	–	–	79
Marshall	–	*	–	–	–	–	5	1	–	1	–	–	10
Monroe	–	32	–	72	–	1	163	350	–	10	1	–	692
Muscatine	–	52	3	–	–	–	79	98	–	6	–	–	324
Polk	–	–	–	–	–	1	–	–	–	–	–	–	1
Poweshiek	–	83	2	46	–	12	11	60	–	13	1	–	253
Van Buren	–	96	29	250	–	11	234	365	–	16	1	–	1,470
Wapello	–	4	50	380	–	13	473	758	–	5	–	–	2,017
Warren	–	13	–	–	–	–	9	236	–	–	–	–	686
Washington	–	174	56	598	–	46	683	605	–	100	48	–	2,998
Wayne	–	10	–	–	–	–	10	–	–	4	–	–	74
Webster	–	11	–	–	–	–	17	64	–	15	*	–	133
Total	–	1,395	382	6,451	–	131	4,575	5,879	–	316	201	–	27,300
Southwestern													
Adair	–	4	–	–	–	–	–	–	–	–	–	–	14
Cass	–	72	–	–	–	–	–	–	–	–	–	–	72
Fremont	–	97	–	–	–	–	–	–	–	–	–	–	276
Harrison	–	73	–	*	–	–	–	*	–	–	–	–	73
Mills	–	73	–	–	–	–	–	–	–	–	–	–	73
Montgomery	–	72	–	–	–	–	–	–	–	–	–	–	72
Page	–	97	–	–	–	–	–	–	–	–	–	–	275
Pottawattamie	–	72	–	–	–	–	–	–	–	–	–	–	72
Ringgold	–	13	–	–	–	–	–	–	–	–	–	–	75
Shelby	–	72	–	–	–	–	–	–	–	–	–	–	72
Taylor	–	5	–	–	–	–	–	–	–	–	–	–	5
Woodbury	–	–	–	302	–	–	–	–	–	–	–	–	302
Total	–	649	–	302	–	–	–	*	–	–	–	–	1,380
State total	1	5,921	398	9,087	228	1,210	15,138	12,989	32	2,301	959	*	66,255

* *Less than 500 board feet.*

[1] *International 1/4-inch rule.*

Table 16.--Residue generated by industrial roundwood harvesting by Forest Survey Unit, county, and species group, Iowa, 2000

(In thousand cubic feet)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Northeastern													
Allamakee	1,049	–	–	–	*	*	23	132	1	*	21	3	25
Benton	234	–	–	–	–	–	210	–	–	–	–	*	3
Black Hawk	30	–	–	–	–	–	18	1	–	–	–	–	5
Bremer	48	–	–	–	*	*	12	*	–	–	1	*	5
Buchanan	13	–	–	–	–	–	8	–	–	–	*	–	1
Butler	35	–	–	–	*	*	*	*	–	–	*	*	5
Cedar	114	–	–	–	–	–	28	1	–	*	2	2	6
Chickasaw	47	–	–	–	*	*	*	1	–	–	*	1	6
Clayton	1,064	–	–	–	*	*	5	256	–	*	18	2	43
Clinton	87	–	–	–	–	–	53	–	–	*	*	–	*
Delaware	534	–	2	1	–	4	1	109	–	*	7	*	15
Dubuque	1,040	–	–	–	–	–	22	157	–	2	26	7	35
Fayette	437	–	–	–	17	17	2	62	–	–	8	3	14
Floyd	84	–	–	–	*	*	5	2	–	–	*	2	8
Howard	36	–	–	–	*	*	*	1	–	–	*	*	5
Jackson	320	–	–	–	–	–	62	23	–	*	3	–	4
Johnson	43	–	–	–	–	–	–	–	–	–	1	–	3
Jones	460	–	–	–	–	–	89	79	–	–	7	*	7
Linn	202	–	–	–	–	–	4	50	–	–	7	*	6
Mitchell	81	–	–	–	*	*	1	1	–	–	*	1	6
Scott	19	–	–	–	–	–	–	*	–	–	–	–	1
Tama	413	–	–	–	–	–	368	–	–	–	1	1	4
Winneshiek	166	–	–	–	*	*	1	7	–	*	2	1	7
Total	6,555	–	2	1	19	23	913	880	1	2	106	28	213
Northwestern													
Clay	34	–	–	–	–	–	7	–	–	–	*	–	1
Hancock	6	–	–	–	–	–	–	–	–	–	–	–	–
Kossuth	59	–	–	–	–	–	21	–	–	–	–	–	2
Lyon	3	*	–	*	–	*	–	–	–	–	–	–	*
Plymouth	32	–	–	–	–	–	–	–	–	–	–	–	–
Winnebago	112	–	–	–	–	–	1	2	–	–	–	–	–
Worth	7	–	–	–	–	–	2	–	–	–	–	–	–
Total	253	*	–	*	–	*	31	2	–	–	*	–	4

(Table 16 continued on next page)

(Table 16 continued)

Forest Survey Unit and county	All species	Softwoods					Hardwoods						
		Spruce	Jack pine	Red pine	White pine	Total softwoods	Soft maple	Hard maple	Paper birch	River birch	Hickory	Hackberry	Ash
Southeastern													
Appanoose	219	–	–	–	–	–	98	–	–	–	1	–	2
Boone	86	–	–	–	–	–	2	5	–	–	*	–	1
Clarke	15	–	–	–	–	–	14	–	–	–	–	–	1
Dallas	51	–	–	–	–	–	1	–	–	–	–	–	*
Davis	250	–	–	–	–	–	131	–	–	–	1	–	1
Decatur	15	–	–	–	–	–	9	–	–	*	–	–	1
Des Moines	198	–	–	–	–	–	64	1	–	*	10	3	10
Hardin	443	–	–	–	–	–	211	9	–	–	*	4	73
Henry	146	–	–	–	–	–	21	2	–	*	7	*	7
Iowa	131	–	–	–	*	*	56	–	–	*	3	3	3
Jasper	120	–	–	–	–	–	94	–	–	–	–	–	–
Jefferson	283	–	–	–	–	–	50	–	–	1	11	6	–
Keokuk	335	–	–	–	*	*	88	–	–	1	12	9	4
Lee	346	–	–	–	–	–	119	1	–	*	10	3	11
Louisa	69	–	–	–	–	–	12	2	–	*	5	*	3
Lucas	50	–	–	–	–	–	21	–	–	–	–	–	2
Madison	6	–	–	–	–	–	*	1	–	–	–	–	–
Mahaska	334	–	–	–	–	–	95	–	–	1	11	9	5
Marion	19	–	–	–	–	–	17	–	–	–	–	–	*
Marshall	2	–	–	–	–	–	–	*	–	–	–	–	*
Monroe	123	–	–	–	–	–	14	–	–	–	–	–	2
Muscatine	55	–	–	–	–	–	12	1	–	*	5	*	3
Polk	*	–	–	–	–	–	–	–	–	–	–	–	–
Poweshiek	23	–	–	–	*	*	4	*	–	*	*	*	1
Van Buren	232	–	–	–	–	–	95	1	–	*	7	*	7
Wapello	362	–	–	–	–	–	63	–	–	1	8	6	3
Warren	150	–	–	–	–	–	104	–	–	–	–	–	–
Washington	549	–	–	–	*	*	87	31	–	1	20	12	17
Wayne	16	–	–	–	–	–	12	–	–	–	–	–	*
Webster	26	–	–	–	–	–	5	–	–	–	*	–	*
Total	4,655	–	–	–	1	1	1,501	54	–	5	112	56	157
Southwestern													
Adair	3	–	–	–	–	–	2	–	–	–	–	–	*
Cass	10	–	–	–	–	–	–	–	–	–	–	–	–
Fremont	57	–	–	–	–	–	44	–	–	–	–	–	–
Harrison	10	–	–	–	–	–	–	–	–	–	–	–	–
Mills	10	–	–	–	–	–	–	–	–	–	–	–	–
Montgomery	10	–	–	–	–	–	–	–	–	–	–	–	–
Page	57	–	–	–	–	–	44	–	–	–	–	–	–
Pottawattamie	10	–	–	–	–	–	–	–	–	–	–	–	–
Ringgold	17	–	–	–	–	–	14	–	–	–	–	–	1
Shelby	10	–	–	–	–	–	–	–	–	–	–	–	–
Taylor	1	–	–	–	–	–	–	–	–	–	–	–	–
Woodbury	32	–	–	–	–	–	–	–	–	–	–	–	–
Total	226	–	–	–	–	–	104	–	–	–	–	–	1
State total	11,689	*	2	1	20	24	2,549	936	1	7	218	83	375

(Table 16 continued on next page)

(Table 16 continued)

Forest Survey Unit and county	Hardwoods												
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	Total hardwoods
Northeastern													
Allamakee	*	86	*	19	22	17	405	200	5	63	26	–	1,048
Benton	–	4	–	*	–	2	4	10	–	*	–	–	234
Black Hawk	–	1	–	–	–	–	*	1	–	3	*	–	30
Bremer	–	–	*	5	–	*	4	17	–	3	*	–	47
Buchanan	–	*	–	–	–	–	2	1	–	*	*	–	13
Butler	–	–	*	5	–	–	3	17	–	3	*	–	35
Cedar	–	10	*	12	–	5	32	10	–	4	1	–	114
Chickasaw	–	–	*	6	–	–	5	22	–	3	1	–	47
Clayton	–	26	*	14	8	16	341	211	1	97	27	–	1,064
Clinton	–	1	–	–	–	16	9	7	–	1	*	–	87
Delaware	–	51	–	–	5	9	197	74	–	46	17	–	530
Dubuque	–	76	*	16	11	99	320	141	–	92	37	–	1,040
Fayette	–	4	*	14	1	4	172	92	1	26	15	–	420
Floyd	–	*	*	7	–	*	8	44	–	4	2	–	84
Howard	–	*	*	5	–	–	3	17	–	3	*	–	35
Jackson	–	50	–	–	6	17	83	43	–	24	3	–	320
Johnson	–	11	–	–	–	3	13	4	–	7	1	–	43
Jones	–	60	–	3	–	5	112	41	–	46	12	–	460
Linn	–	13	–	–	–	4	62	26	–	17	11	–	202
Mitchell	–	1	*	39	–	–	4	22	–	4	1	–	81
Scott	–	*	–	–	–	12	6	*	–	–	–	–	19
Tama	–	4	–	4	–	2	9	11	–	6	1	–	413
Winneshiek	–	4	*	10	3	5	48	59	2	11	4	–	165
Total	*	402	3	161	56	219	1,844	1,073	8	461	163	–	6,532
Northwestern													
Clay	–	1	–	–	–	*	11	*	–	14	*	–	34
Hancock	–	–	–	–	–	–	–	6	–	–	–	–	6
Kossuth	–	*	–	28	–	–	–	–	–	7	–	–	59
Lyon	–	*	–	2	–	–	–	–	–	–	*	*	3
Plymouth	–	–	–	32	–	–	–	–	–	–	–	–	32
Winnebago	–	*	–	–	–	–	–	106	–	2	–	–	112
Worth	–	*	–	3	–	–	–	2	–	–	–	–	7
Total	–	2	–	65	–	*	11	114	–	23	*	*	253

(Table 16 continued on next page)

(Table 16 continued)

Forest Survey Unit and county	Hardwoods												Total hardwoods
	Butternut	Black walnut	Sycamore	Cotton-wood	Aspen	Black cherry	Red oak group	White oak group	Willow	Basswood	Elm	Northern catalpa	
Southeastern													
Appanoose	–	2	–	33	–	–	31	50	–	2	–	–	219
Boone	–	1	–	–	–	2	18	34	–	21	1	–	86
Clarke	–	*	–	–	–	–	–	–	–	–	–	–	15
Dallas	–	*	–	50	–	–	–	–	–	–	–	–	51
Davis	–	1	6	26	–	–	35	49	–	*	–	–	250
Decatur	–	2	–	–	–	*	2	*	–	–	–	–	15
Des Moines	–	2	2	36	–	*	32	33	–	2	2	–	198
Hardin	–	–	–	113	–	–	6	9	–	*	18	–	443
Henry	–	13	1	18	–	–	28	47	–	1	1	–	146
Iowa	–	11	2	23	–	1	14	12	–	*	3	–	131
Jasper	–	*	–	–	–	–	10	15	–	–	–	–	120
Jefferson	–	10	12	54	–	–	65	74	–	–	–	–	283
Keokuk	–	10	14	63	–	*	63	69	–	*	2	–	334
Lee	–	21	9	40	–	5	85	39	–	2	2	–	346
Louisa	–	14	1	*	–	–	12	18	–	1	*	–	69
Lucas	–	*	–	5	–	–	8	13	–	1	–	–	50
Madison	–	2	–	–	–	–	2	–	–	*	–	–	6
Mahaska	–	–	13	62	–	–	65	69	–	*	2	–	334
Marion	–	*	–	–	–	–	–	–	–	1	–	–	19
Marshall	–	*	–	–	–	–	1	*	–	*	–	–	2
Monroe	–	4	–	8	–	*	29	63	–	2	*	–	123
Muscatine	–	2	1	–	–	–	14	17	–	1	–	–	55
Polk	–	–	–	–	–	*	–	–	–	–	–	–	*
Poweshiek	–	2	*	5	–	*	2	4	–	3	*	–	23
Van Buren	–	3	7	26	–	*	42	40	–	4	*	–	232
Wapello	–	1	12	41	–	3	85	137	–	1	–	–	362
Warren	–	2	–	–	–	–	2	43	–	–	–	–	150
Washington	–	23	14	64	–	11	123	109	–	24	12	–	549
Wayne	–	1	–	–	–	–	2	–	–	1	–	–	16
Webster	–	2	–	–	–	–	3	12	–	4	*	–	26
Total	–	128	93	668	–	24	781	957	–	73	43	–	4,655
Southwestern													
Adair	–	*	–	–	–	–	–	–	–	–	–	–	3
Cass	–	10	–	–	–	–	–	–	–	–	–	–	10
Fremont	–	13	–	–	–	–	–	–	–	–	–	–	57
Harrison	–	10	–	*	–	–	–	*	–	–	–	–	10
Mills	–	10	–	–	–	–	–	–	–	–	–	–	10
Montgomery	–	10	–	–	–	–	–	–	–	–	–	–	10
Page	–	13	–	–	–	–	–	–	–	–	–	–	57
Pottawattamie	–	10	–	–	–	–	–	–	–	–	–	–	10
Ringgold	–	2	–	–	–	–	–	–	–	–	–	–	17
Shelby	–	10	–	–	–	–	–	–	–	–	–	–	10
Taylor	–	1	–	–	–	–	–	–	–	–	–	–	1
Woodbury	–	–	–	32	–	–	–	–	–	–	–	–	32
Total	–	89	–	32	–	–	–	*	–	–	–	–	226
State total	*	621	96	927	56	243	2,636	2,144	8	557	206	*	11,665

* *Less than 500 cubic feet.*

Table 17.--Residues produced at primary wood-using mills by Forest Survey Unit, type of use, and residue type, Iowa, 2000

(In thousand tons, green weight)

Forest Survey Unit and type of use	Total all material		Wood residue				Bark	
			Coarse[1]		Fine[2]			
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Northeastern Unit								
Fiber products	–	23.88	–	23.29	–	–	–	0.59
Industrial fuel	*	25.16	*	10.93	–	14.03	*	0.20
Domestic fuel	0.27	13.22	0.19	11.94	*	0.03	0.08	1.25
Miscellaneous[3]	0.16	77.56	0.03	28.35	0.12	19.00	0.01	30.21
Not used	*	3.25	*	2.08	*	1.08	*	0.09
Total	0.43	143.07	0.22	76.59	0.12	34.14	0.09	32.34
Southeastern Unit								
Fiber products	–	31.60	–	26.57	–	–	–	5.03
Industrial fuel	–	25.29	–	13.21	–	6.99	–	5.09
Domestic fuel	*	4.37	*	3.59	–	0.17	*	0.61
Miscellaneous[3]	0.01	38.60	*	5.91	0.01	20.64	*	12.05
Not used	*	6.16	*	0.61	–	5.37	*	0.18
Total	0.02	106.01	0.01	49.88	0.01	33.17	*	22.96
Northwestern and Southwestern Units[4]								
Industrial fuel	–	6.21	–	3.54	–	1.18	–	1.49
Domestic fuel	–	0.57	–	0.57	–	–	–	–
Miscellaneous[3]	–	1.13	–	0.26	–	0.50	–	0.37
Total	–	7.91	–	4.37	–	1.68	–	1.86
All Units								
Fiber products	–	55.48	–	49.86	–	–	–	5.62
Industrial fuel	*	56.66	*	27.68	–	22.20	*	6.78
Domestic fuel	0.27	18.16	0.19	16.10	*	0.20	0.08	1.86
Miscellaneous[3]	0.17	117.27	0.03	34.52	0.13	40.13	0.01	42.62
Not used	*	9.41	*	2.69	*	6.45	*	0.27
Total	0.45	256.99	0.22	130.84	0.13	68.99	0.10	57.16

* *Less than 5 green tons.*

[1] *Suitable for chipping such as slabs, edgings, veneer cores, etc.*

[2] *Not suitable for chipping such as sawdust, veneer clippings, etc.*

[3] *Livestock bedding, mulch, small dimension, and specialty items.*

[4] *The Northwestern and Southwestern Units are combined to avoid disclosure of individual mills.*

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Discusses recent Iowa forest industry trends; production and receipts of industrial roundwood; and production of saw logs, veneer logs, and pulpwood in 2000. Reports on logging residue generated from timber harvest operations. Also reports on wood and bark residue generated at primary wood-using mills and on disposition of mill residues.

KEY WORDS: Industrial roundwood, logging residue, mill residue, production, receipts, saw logs

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